Chemical Week

May 3, 1952 Price 35 cents

"Foreign trade" tycoon W. R. Grace shifts emphasis, drives for U. S. chemical empire . . . . . p. 10

New England, fretful of industry emigration, casts research as bait to lure new enterprises . . . p. 25

Spectrometers are tough to sell, use; new tack pares headwork, ups sales . . . . . p. 33

Glass on the highways — but as beads; 3,000 tons will gleam in $8 million of traffic paint . . . . p. 45

OPS inches toward decontrol; here's what's happened, what looms . . . . . p. 53

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Chemical Week

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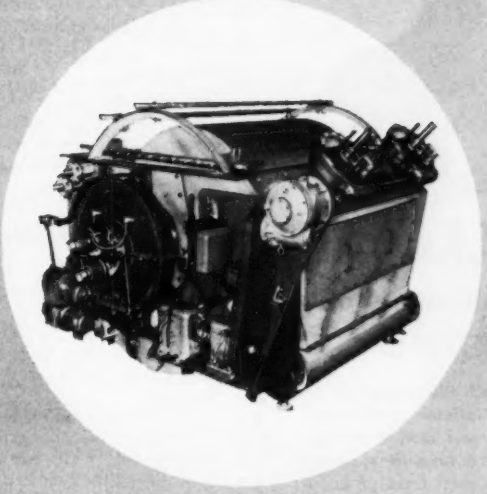

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OPINION . . . . .

April Fool

TO THE EDITOR: Re the mix up of page numbers on the cover . . . Should not your Mar. 29th. issue have been dated three days later?

R. P. PERKINS
Asst. Director
Organic Research Laboratory
The Dow Chemical Co.
Midland, Mich.

We fumbled, we're chastened. But spare us, please, fellows from the wrath of the mailman. You're breaking his back with the chiding letters he is toting in.—ED.

Burgeoning Montreal

TO THE EDITOR: . . . I have read the very interesting article you have written regarding Canadian chemical affairs (New Role for Montreal, Apr. 12). It covers the main subject quite thoroughly, and I have only this to suggest:

On our ethylene oxide-glycol plant at Montreal East, we expect to finish construction by the end of this year, and the plant should be on stream early in 1953. (*CW said only that initial work—e.g., pipelines into refinery—is now 75% complete, the plant should be in before 1953.*—ED.)

While on the map which is part of the article you show Beauharnois as a location, you do not mention the mercury cell caustic-chlorine plant which we operate there, and on which we are completing an extension costing approximately $1 million; this is expected to increase its output by 50%, and the work should be finished by July-August this year . . .

A. H. MARTIN
President
Dominion Tar & Chemical Co. Ltd.,
Montreal, Canada

TO THE EDITOR: . . . Your highly condensed but comprehensive study of recent chemical developments in this area is well done and the emphasis on Montreal is novel and interesting . . .

LESLIE L. H. MILES
Assistant to the President
Canadian Industries, Ltd.,
Montreal, Canada

Flexible Principles?

TO THE EDITOR: It seems to me that you have exaggerated in your editorial "Bad Bargain For Everyone" (Mar. 29), almost beyond recognition, the importance of the union shop issue.

The fact of the matter is that the union shop has been widely accepted throughout American industry. Some of our largest industries have been operating under the union shop so long, and so satisfactorily, that it has simply disappeared as an issue. The attitude of the workers, as expressed in Taft-Hartley secret elections for the union shop, was so strongly in favor of the union shop that at the request of Senator Taft, himself, the union shop election was removed as a prerequisite for . . . seeking union shop and collective bargaining.

Government intervention in the union shop issue came not at the behest of the unions but from the Taft-Hartley Act—which, I need not remind the editors of CHEMICAL WEEK, was opposed by the CIO and every other labor union.

The steel industry, which has done so much talking about the principles involved in the union shop, has itself signed scores of union shop contracts with several other unions: with the coal miners for the captive mines; with the railway brotherhoods and maritime unions for rail and marine operations of the steel industry.

The "principles" expressed by the steel industry in this dispute on the union shop are very flexible—so flexible that they do not look like principles at all but merely obstruction to the granting of a legitimate proposal of a highly respectable union like the United Steelworkers of America.

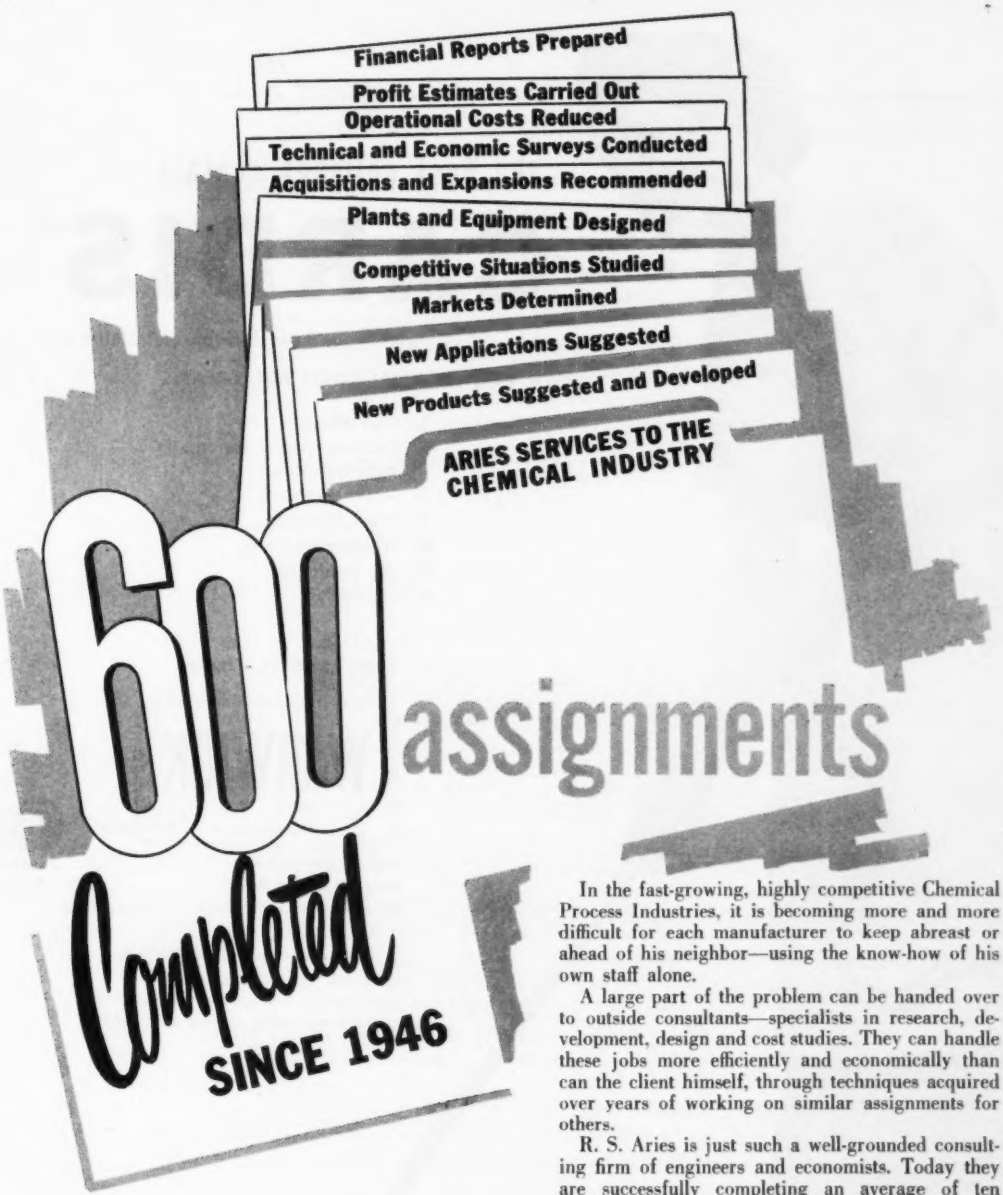
ALLAN S. HAYWOOD
Executive Vice President
Congress of Industrial Organizations
Washington, D. C.

We respect your views, Reader Haywood, but let this be clear: CW does not oppose the union shop per se and that, indeed, we said. We did, and do, oppose the imposition of the union shop on any group of citizens by government fiat. That's tyranny, abrogates one of our fundamental freedoms—the right to choose the organizations to which we will belong and pay tribute.

And, as we also said, unions themselves may eventually pay a heavy price for following the expeditious course of courting government: the scuttling of free trade unionism.—ED.

CW welcomes expressions of opinion from readers. The only requirements: that they be pertinent, as brief as possible.

Address all correspondence to: The Editor, Chemical Week, 330 W. 42nd St., New York 36, N. Y.



In the fast-growing, highly competitive Chemical Process Industries, it is becoming more and more difficult for each manufacturer to keep abreast or ahead of his neighbor—using the know-how of his own staff alone.

A large part of the problem can be handed over to outside consultants—specialists in research, development, design and cost studies. They can handle these jobs more efficiently and economically than can the client himself, through techniques acquired over years of working on similar assignments for others.

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NEWSLETTER

There's almost as much unofficial talk in Washington about deflation as there is official talk about inflation—and the effect this may have on tax policy pleases chemical industrialists, who have been especially hampered by excess profit and higher corporate tax takes.

Congressional leaders now think that tax cuts—to encourage capital investment—are necessary to combat deflation. Excess profits tax would be the first to go, but normal and surtax rates may be cut too—on the grounds that firms without excess profits would be hardest hit.

In any case a tax policy showdown is coming, since many current tax laws expire during the next Congress' first fiscal year.

Dow Chemical and Detroit Edison last week anted up $250,000 to stay in the atomic energy game for a second round.

The team is one of four that have been working with AEC to develop atom-generated electric power. Gist of interim reports from all four: "cautious optimism that the difficult technical and cost factors involved will be solved eventually."

The other three teams aren't out; they may also decide to continue. Significance of Dow-Detroit's move, says AEC, is the team's decision that "prospects . . . are sufficiently promising that it will continue to spend its own money . . ."

Another, at the moment more tangible, technical development will make news about six weeks hence—when patent applications clear.

It's a new mercury-type chlorine-caustic cell. Chief among its advantages, says the inventor: a 75% saving in plant area.

The National Petroleum Council has now had a chance to study the Ebasco report (CW, Apr. 26), come back with its rebuttal.

Says NPC's Kemp (Texaco's research head): Ebasco limited its study to parts of the plant which account for only a quarter of the total cost, accepted the Bureau of Mines' figures for the rest.

NPC still thinks B of M's (and Ebasco's) design rates are too low—not enough steam capacity, for example; and maintenance allowance is likewise low.

A further NPC contention: Even using Ebasco's by-product credits, and B of M's investment costs, gasoline would have to be priced at 28½¢ a gallon to provide enough profit after taxes to attract investors.

Industry can now choose freely between natural and synthetic rubber (CW, Apr. 26), but that doesn't mean the government is out of the picture. It still owns the synthetic plants, will for at least another year or two under Congressional extension.

But the ensuing period may well determine the government's future policy. If consumption of synthetic holds up, security-minded Congressmen may let the industry return to private hands.

Chances look good, since at the moment users like synthetic. But a price drop on natural, expected on June deliveries, may swing the pendulum, force a return to controls—and strengthen the case for continued government ownership of the GR-S plants.

First it was shouting, then telephones, finally intercoms. Now at least two companies—Freeport Sulphur and Texas Eastern Transmission—are installing an even newer communications gimmick: microwave radio.

Freeport will spend $150,000 to keep its New Orleans office in touch with its marshland mines and off-shore boats and barges. The setup will consist of four manned transmitter stations and four relay stations operating on six FCC-approved channels. It will be equivalent to twelve private telephone lines—and only half as expensive to build.

Texas Eastern's Shreveport office will be able to communicate with all points along the company's pipeline to Linden, N. J. The 56-tower system, now 70% complete, will provide continuous and instantaneous metering information to the home office and dispatching offices.

There's a good chance that Federal water policy legislation will be recommended by President Truman to Congress before the end of May.

The Budget Bureau is now reviewing comments from Federal agencies involved, will incorporate many of their suggestions into a first draft.

Top technical developments of chemical significance include a new elastomer, a new cotton treatment, a new approach to soil nitrogen:

The elastomer is Du Pont's chlorosulfonated polyethylene, an ozone-resistant "rubber" that can be processed on usual rubber equipment.

A new elastic cotton can be substituted for rubber in surgical bandages. A recent Army order for 10 million bandages will save $5 million (21¢ each compared with 70¢ for rubber) and will provide a market for 750,000 lbs. of caustic. Subsequent orders will be several times larger.

Ammonia makers may be disturbed to learn that University of Texas scientists are trying to breed better nitrogen-fixing bacteria. The technique they're using is similar to that used in developing antibiotic-producing organisms.

Except for National Cylinder Gas, a batch of late quarterly reports harmonize on the theme of lower profits.

National Cylinder showed an 11.2% gain over last year on 7.5% more sales. Heyden's, Atlas' and Allied Chemical's sales were off, profits were of 40%, 20% and 4% respectively. International Minerals & Chemical (nine months) and Pittsburgh Coke & Chemical (three months) sold more—25.5% and 3%, respectively—but net after taxes dipped 1% and 7.8%.

The Defense Department's Research and Development Board is looking for places to spend its money.

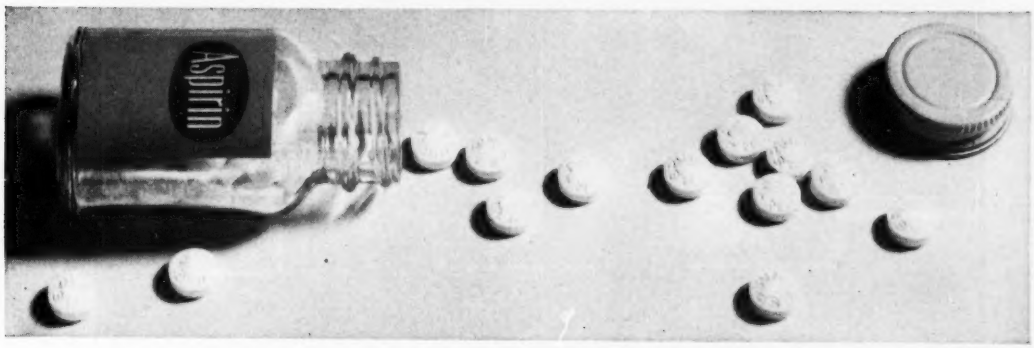
It's surveying some 5,000 firms by mail in an effort to locate possible contractors to carry out defense research programs.

In the security sphere, defense contractors will now have an easier time determining what information on its work it can give to the press and the public. The rules are laid down in Industrial Security Letter 52-4, obtainable from the Munitions Board, Washington 25, D.C.

Another cigarette—Benson & Hedges' Parliaments—is climbing aboard the independent-laboratory-consultant bandwagon. U.S. Testing Co. has tested a filter, results will be used soon in advertising.

. . . The Editors

What do aspirin tablets have in common with Barrett* Coal-Tar Chemicals?



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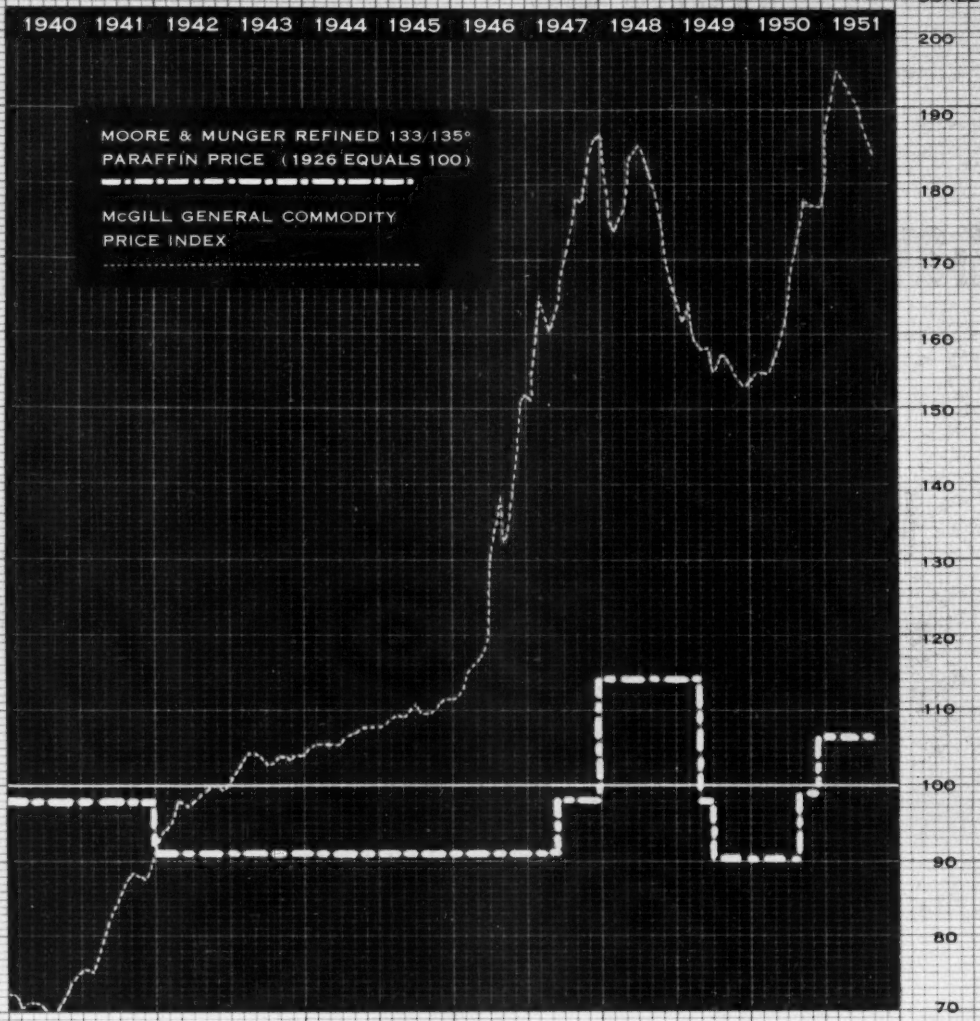
A FACT WORTH NOTING



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BUSINESS & INDUSTRY . . . . .

New GAFfer

First public notice that a syndicate had been formed to purchase General Aniline & Film Corp. was made last week at the annual meeting.

Harry L. Derby, ex-president of ex-American Cyanamid & Chemical Co. and a prominent minority stockholder in GAF, first expressed his confidence in the present management, then gave solid substance to bruited reports of such a syndicate when he casually remarked that he had advised it on reasons why GAF should be sold.

Heading up the syndicate is "The Thundering Herd"—Merrill Lynch, Pierce, Fenner & Beane, which firm was also behind the Schering purchase (*CW Newsletter, Mar. 15*).

Question: Will this group add its weight to the pressure on the government to relax its ten-year grip on GAF? (President Jack Frye and the board of directors are on record favoring return to private ownership.)

Any move, of course, must be preceded by settlement with Interhandel (I. G. Chemie), which is willing to settle its claims for a reported $35 million. Its original proposal to the U.S. was $15 million, but the price is going up.

Others are staking their claims, too. The Supreme Court recently ruled favorably for New Yorkers Eric and Aenni Kaufman, who own 86 shares of I. G. Chemie—worth about $15,000. They claimed that the government had shown prejudice against American-citizen stockholders in I. G. Chemie, are pressing for a share in any settlement.

Totem Topper

The new face carved at the top of the NPA Chemical, Rubber and Forest Product Bureau's totem pole faces the opposite direction from the previous incumbent.

The change is symbolic. Where Calco's Kenneth Klipstein presided over a mobilization and control campfire, Lawrence Strattner has almost the opposite task ahead. As new bureau chief (*CW Newsletter, Apr. 19*), his job is to damp these fires, but like the redmen of old, to keep the spark alive for future fires. In many ways, this is the harder job since not only must he decide when and where the fires are to be banked, but he also must find the men to do the banking.

Strattner is on leave from West Virginia Pulp and Paper, where he is administrative vice president. He joined the company in 1916, following graduation as a chemical engineer from Dayton University.

Smoke Signals: Present indications from under NPA's signal blanket are these: Allocation controls will be taken off as many materials as possible, viz., those on which market conditions are already in balance.

Also, with a good portion of expansion already under industry belts, the hunt for structural steel is not so difficult.

This, in Strattner's eyes, hardly

NPA's STRATTNER: An orderly retreat.

means that NPA's headaches are over. Instead, it poses a real danger—that industry will feel the emergency is over. NPA still wants as many men from chemical companies as it has had in the past. This, first of all, provides NPA with experienced personnel.

Strattner feels that it would be impossible to do the job with career civil servants alone. Also, short-term service builds up a stockpile of business executives familiar with government operations who could become available on short notice in case of "hot" war. To industry's advantage is the fact that it gives the men a greater familiarity with the operations of government.

To businessmen, faced with mounting problems of their own, serving the government now could prove a great hardship. Despite the mutual advantages of the work, recruitment of personnel will be an almost daily worry to Strattner—until the day when he, too, can retire to industrial happy hunting grounds.

Florida Fanfare

Mark down Florida as the location for an experiment which could have a real effect on future fuel and chemical supply.

A new company, Florida Petrochemicals, has begun clearing a site at Port Everglades (Fort Lauderdale) for a $5 million oil cracking plant.

It plans to crack 4,000 barrels of crude oil daily to provide (1) gas for Florida consumers – including the Greater Miami area—and (2) a variety of chemicals. Among these fractions will be crude butadiene, crude piperylene and isoprene, benzene and toluene, various resin-forming oils and heavy aromatic tars.

Bonus of the venture: The gas to be sold will contain 20% ethylene and 5%-10% propylene. These will be available for future petrochemical operations.

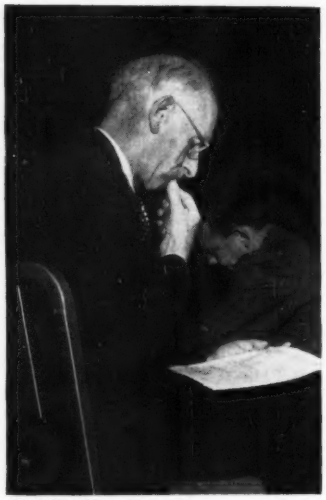
Cracking process to be used is United Gas Improvement's Ugite method, rights to which have been purchased by Pennsylvania Industrial Chemical Co. Naturally, a good share of Florida Petrochemical's output will go to Picco, though such fractions as the butadiene will be sold to others.

The Long View: Company officials see this project as a "commercial-scale pilot plant" for future operations. The large-scale utility of the process, of course, is tied to natural gas economics.

Thermal efficiency of the Ugite process is about 80%. Sponsors' optimism is based on this, on the fact that crude oil can be cheaply transported to Port Everglades, and that distributing the gas by pipeline is cheaper to the consumer than buying bottled LPG.

On the chemical side, they point out that a ton of crude oil will produce 30 gallons of benzene/toluene, while coking a ton of coal gives only 2.8 gallons.

The company hopes to be onstream by October, 1953.



STANDARD ASKS: "If you were starting all over again . . ."

Corporate Diagnosis

A company's health is largely dependent on a satisfied, well-adjusted work force, but taking the temperature and pulse of that part of the corporate body is generally a ticklish and elusive job. Standard Oil of California now reports that it has found a solution: call in an outside doctor.

The M.D. in Standard's case turned out to be the California Institute of Technology. The testing instrument was a broad-gauge poll of refinery, chemical plant, and pipeline workers. Now that the results are in and tabulated, Standard faces months of musing self-analysis, and Caltech is sitting on a treasure-trove of industrial relations research data.

Third Party Needed: Caltech's role was essential to the success of the questionnaire. No matter how earnestly management might assure its workers that all answers would be confidentially treated, their natural reluctance to endanger their jobs could not be totally removed without the presence of a respected and trusted intermediator.

The Caltech researchers were the only people allowed to examine the original filled-in ballots. These were destroyed immediately after the data had been transferred to anonymous IBM cards. The information finally received by Standard was a tabulation of 15,715 employees' answers to thirty-seven searching questions such as "If you were starting all over, would you go to work for [Standard] again?"

Sound Off! The effort to capture the worker's confidence worked so unexpectedly well that researchers and corporation alike were unprepared for the deluge of "write-in" comments pencilled onto the back page of the questionnaire booklet. Although Standard received a generally clean bill of health from its employees in the question-answer part of the ballot, nearly half of the 45,000 volunteered remarks were complaints, gripes, and constructive criticisms.

Both Caltech and Standard consider this outpouring of opinion a mark of the poll's success. Bringing these undercurrent feelings to the surface will be of benefit to management, in planning future personnel policies, as well as to its employees.

Shipper, Flyer, Chemical Maker

W. R. Grace & Co., Manhattan trader with a South American air, readies plan to crash into U. S. chemical industry.

"The Old Lady of Hanover Square," now squired by third-generation Peter Grace, has $75 million to spend.

Reverse-english Point Four program puts Grace Lines' parent into ammonia-urea. Ultimate dream: petrochemicals.

The mark of distinction for most chemical companies is to reach the point where they can consider setting up foreign manufacturing facilities.

It is just the reverse, however, for W. R. Grace & Co. After nearly a century of Yankee trading and manufacturing south of the equator, it has returned home to become overnight an important citizen in the American chemical community.

Last week, in a marathon series of management discussions (one of which lasted all night) climaxed by a directors' meeting on Thursday, the chemical future of Grace was hammered into shape. Clearing the air of rumors based on stock purchases, chemical-company loans, DPA-certified facilities, and personnel acquisitions, CW can now report as a definitive fact that Grace-in-the-U.S. is in chemicals for keeps.

New Era: This is a signal victory for young Joseph Peter Grace, Jr., grandson of the founder. The company handed over to him in 1945 is a sprawling commercial empire doing a $230-odd million a year business around the globe, mainly in South America. It was created by his grandfather and father in two distinct stages.

Starting in 1854 as a shipper of guano fertilizer from Peru to the U.S., William R. Grace built the company out of ships and ocean freight. His son, J. P. Grace, Sr., extended the firm's influence beyond its South American ports of call, establishing a miscellany of manufacturing interests and trading organizations. So effectively did he broaden Grace's base that now the Grace Lines and Panagra Airlines (half owned by Pan American) number but two out of more than fifty subsidiaries.

This history is the key to what is happening at Hanover Square today. Young Peter's two forebears each left what amounted to a commercial monument to themselves. For geographical, economical, and political reasons, neither can be greatly expanded during the coming decades; and so they stand, like the Pharaoh's pyramids, reminding the present generation of what has gone before. At thirty-nine, with an abundance of the sands of time stretching before him, Peter is convinced that he too can build an imposing monument. The major problems: where and out of what?

These both have now been answered —Peter's pyramid will be built of chemicals, made in the U.S.

First Step, Ammonia: The board of

GRACE'S PETER: Pyramid builder.

directors' key decision last week was to commit the company to the building of a $20 million ammonia-urea plant in the Middle West. The exact location will be announced as soon as present negotiations for a plant site are completed. Within two years Grace hopes to have the installation on stream.

The original application for DPA certification indicated that two plants would be built in Illinois with a combined nitrogen capacity of 72,000 tons. The statement to the government dealt exclusively with agricultural uses for the products, but Grace hints that at least part of the final capacity will be available for other plans.

On the surface, this initial preoccupation with agricultural chemicals would seem like a logical outgrowth of Grace's long-standing interest in mixed fertilizers and formulated insecticides. The wholly-owned Naco Fertilizer Co. has five mixing plants in the Carolinas, Florida, and Ohio as well as sulfuric acid and superphosphate installations at Charleston. The same firm runs three formulating facilities for a line of insecticides. A separate company, Naco of California, has mixed fertilizer and insecticide plants on the West Coast.

¡Viva la Quimica! But Grace officials say that this was more of a coincidence. Its American chemical growth could just as easily have taken its blood lines from an alcohol distillery and a chlorine-caustic unit in Peru, or from a paint plant in Chile.

Having made the basic decision to put its $75 million kitty into chemical investments, Grace viewed the entire field with an open mind. This was largely the task of Gene Winney (elevated last week to the post of assistant vice president) and his Chemical Development Division. His exhaustive report which led to the decision on the ammonia-urea plant ran over 700 pages long.

The Division is now making similar studies of other parts of the industry, with special accent on possibilities in the petrochemical field. This would be a big step from the agricultural chemical beginnings, and a far cry from anything Grace has tried in South America.

No Partners? These developments shed no light on Grace's relationships with the two established chemical firms to which it attached itself during the past year. For a time, it appeared that Grace would use one or both of the concerns as partners or implements in giving effect to its ambitious chemical plans.

The prime nominee, many industry men thought, was the Davison Chemical Corp., in which Grace, for $4½ million, had acquired a 19% interest. Apart from this fat financial involvement, the idea of a Grace-Davison partnership on the ammonia-urea project was bolstered by Davison's background and know-how in sulfuric acid, fertilizers, and petroleum catalysts. Apparently this has not crystallized. Grace now says that, with or without the long-mooted Grace-Davison deal, the Midwest plant will be built on schedule.

The other connection is with Dewey and Almy Chemical Co., manufacturer of sealing compounds, packaging films, and chemical specialties. The $2 million loan extended to this firm can be eventually converted to common stock amounting to less than 10% of the company. Except for acquiring D&A's Bradley Dewey as a director for advisory purposes, it is difficult to see where Dewey and Almy might fit into Grace's heavy-chemical plans.

Still unaccounted for in Grace's treasury and borrowing resources are nearly $50 million. That will build a lot of plant, even at today's high prices. The entire industry is listening for the sound of mallet on chisel as Grace readies the next block for Peter's pyramid.

COMPANIES . . . .

Food Machinery & Chemical is planning a new stock issue to get $14 million for working capital and expansion. It plans to sell 300,000 shares of common stock.

•

American Cyanamid stockholders, whose stock is selling at around $100 per share, have voted "almost unanimously" to increase the number of authorized shares from 5 million to 12 million. Unless there is a substantial

Current List of DPA-Certified Chemical Facilities

Company and Location	Product	Amount Applied for	Amount Certified	% Certified
Shawinigan Resins, Springfield, Mass.	Polyvinyl formal resins	$ 322,250	$ 322,250	50
Allied Chemical & Dye	Maleic anhydride, fumaric acid	4,551,500	4,551,500	50
American Aniline Products, Lock Haven, Pa.	Sulfuric acid	1,053,450	203,756	70
Monsanto Chemical, Nitro, W.Va.	Chemicals	73,300	73,300	30
Dow Chemical, Midland, Mich.	Brine	1,800,000	1,780,000	50
Southern Alkali (now Columbia-Southern), Louisville, Ky.	Perchlorethylene	3,250,000	3,070,000	45
Hooker-Detrex, Ashtabula, Ohio	Trichlorethylene	213,600	192,595	50
Commercial Solvents, Terre Haute, Ind.	Dextran	109,000	109,000	70
Monsanto Chemical, Monsanto, Ill.	Parachlorphenol	290,000	290,000	60
Lion Oil, El Dorado, Ark.	Ammonia	260,065	260,065	55
Oronite Chemical, Oak Point, La.	Phenate, sulfonate detergents	1,593,700	1,057,600 328,900 207,200	35 30 15
Phillips Oil, Phillips, Tex.	Propylene polymer (for alk. feed)	331,000	294,200	65
Stanley Works, New Britain, Conn.	Iron sulfate	$ 75,714	$ 75,714	40
General Aniline & Film, Linden, N.J.	Carbonyl iron powder	850,000	850,000	65
Sun Oil Co., Marcus Hook, Pa.	Acid oils	4,868,200	3,257,925 661,500	65 40
United States Steel, Clairton, Pa.	Naphthalene	1,200,000	1,200,000	60
United States Steel, Gary, Ind.	Naphthalene	3,817,000	3,817,000	60
Tennessee Coal, Iron & Railroad, Birmingham, Ala	Naphthalene	1,150,000	1,150,000	60
Stauffer Chemical, Louisville, Ky.	Carbon tetrachloride	2,874,000	2,524,000	45
Dow Chemical, Midland, Mich.	Plasticizers	2,675,000	2,675,000	55
Monsanto Chemical, Monsanto, Ill.	Oil additives	1,646,000	760,050 798,050 87,900	65 40 15
Oronite Chemical, Oak Point, La.	Oil additives	581,200	316,630 153,770 83,800	50 30 10
Ethyl Corp., Baton Rouge, La.	Antiknock compounds	4,155,300	1,563,700 2,591,600	65 50

change in business conditions before May 20, the board of directors is then expected to declare a one-for-one stock dividend. This would leave an additional 2 million shares unissued.

•

Davison stockholders, also concerned with raising expansion money, have approved authorization of 300,000 shares of preferred stock, an increase in common stock from 1 million to 1½ million shares.

The company is thinking of offering common stock holders one share of preferred for each five common shares held. These 128,533 shares should bring in about $6 million. Other expansion costs are to be met through borrowing from insurance sources.

EXPANSION . . .

Manganese Ore: Construction contract for mine and milling plant has been awarded by Westmoreland Manganese (Batesville, Ark.) to Senior, Juengling and Knall. The mine will tap a source said to be the first important deposit of high grade lump manganese ore in the U.S.

•

Cellulose Pulp: Procter & Gamble's Buckeye Cellulose subsidiary has awarded contract to H. K. Ferguson (Cleveland) and Duvall Engineering (Jacksonville) for its proposed $20 million Foley, Fla. plant, slated for completion by January, 1954.

•

Polystyrene: Catalin Corp. has awarded Blaw-Knox the contract for a polystyrene plant at Calumet City, Ill.

Oxygen/Nitrogen: Houston Oxygen has put its new $1 million plant into operation. Products: pure liquid oxygen and nitrogen, plus oxygen, nitrogen and argon in gas form.

Also in operation: the company's intra-Houston 3-inch pipeline for distribution of dry oxygen gas. The line, about two miles long now, is to be extended another four.

•

Nickel/Cobalt: Nickel Processing Co. (*CW Newsletter, Apr. 26*) has awarded H. K. Ferguson contract for its process development plant at Nicaro, Cuba. Plant will investigate recovery of additional nickel plus the cobalt by-product.

•

Wollastonite: Cabot Minerals (newly formed division of Cabot Carbon, in turn, a subsidiary of Godfrey L. Cabot, Boston) has earmarked $2 million for development of its wollastonite deposit at Willsboro, N.Y. (*CW, Sept. 15, '51*). It is now completing final engineering on its second mill at Willsboro for the production of wollastonite for paint, ceramic, rubber and other uses.

Present demands for the material are being handled by its first mill at Willsboro. One new, and perhaps large-scale, use: in ultra-low loss dielectric ceramics; U.S. Army Signal Corps is the interested party. Four grades are being supplied—two fiber grinds and one each for the paint and ceramic industries.

•

Sulfur: Wyoming Gulf Sulphur (no relation to either Texas Gulf or Mexican Gulf Sulphur) is stockpiling a share of production from its Cody, Wyo. facilities pending clarification of export regulations.

The company, a brainchild of Col. O. D. Seagraves, produces an 80-85% elemental sulfur from two deposits in Wyoming. Much of the market for the material has come from large paper companies, and from the fact that this sulfur doesn't have to be counted under the 90% usage limit. Price of the material has been $32 per ton (100% basis) plus freight from Cody.

•

Oil Detergents: Standard of Indiana plans to construct a new plant at Woods River, Ill., for production of Stan-Add 70 detergent for use as motor oil additive.

CHEMICAL COMPANIES — HOW THEY FARED

Company, period	Sales 1952*	Sales % chg. yr ago	Pre-tax earnings 1952*	Pre-tax earnings % of sales	Pre-tax earnings % chg. yr ago	Net earnings 1952*	Net earnings % of sales	Net earnings % chg. yr ago
Rohm & Haas, 3moMar31	$ 26.2	-11.4	$ 3.9	14.9	-44.7	$ 1.3	4.9	-36.0
Devoe & Raynolds, 3moFeb29	9.4	-18.6				0.5	5.0	-90.8
Diamond Alkali†, 3moMar31	20.5	8.0				1.6	8.0	- 0.3
Du Pont, 3moMar31	382.6	0.5						
Union Carbide, 3moMar31	231.4	2.9	61.0‡	26.4	0.8	23.4	10.1	-19.9
Industrial Rayon, 3moMar31			4.7		-15.5	2.1		- 1.0
Dow, 3moFeb29	100.3	15.8	26.9‡	26.9	- 0.8	8.4	8.4	- 6.1
Dow, 9moFeb29	300.6	24.9	76.7‡	28.8	16.3	25.7	8.6	-12.4
Davison, 3moMar30	15.7	21.4	1.7	10.6	-20.5	0.7	4.7	-11.9
Davison, 9moMar30	34.1	15.3	3.1	9.0	-17.2	1.4	4.1	-21.8
Monsanto, 3moMar31	63.4	- 6.7	11.3	17.9	-31.7	5.4	8.5	- 4.0
Sharp & Dohme, 3moMar31	14.6	20.0	2.4	16.7	- 4.3	1.4	9.2	8.5
Sharp & Dohme, yrMar31	48.1	9.8	7.8	16.1	-14.7	4.7	9.7	- 8.7
McKesson & Robbins, 3moMar31	107.6	-11.0	3.1	3.0	-39.3	1.4	1.4	-21.9
Hercules Powder, 3moMar31	48.0	-11.8	9.9	20.7	-10.6	3.1	6.4	-23.4
Virginia-Carolina, 3moMar31			3.6		-23.7	1.5		-29.8
Virginia-Carolina, 9moMar31			5.5		-17.1	2.3		-23.3
Spencer, 3moMar31	8.9	13.4	3.7	41.0	48.0	1.5	16.8	16.7
Spencer, 9moMar31	21.0	27.4	7.6	36.2	21.2	3.0	14.3	-88.7‡
Am. Zinc, Lead&Smelt, 3moMar31	23.0	17.1	2.3	10.1	35.5	0.9	4.1	32.1
Howe Sound, 3moMar31	8.2	6.9	1.8	22.6	14.5	0.9	11.8	4.3
American Cyanamid, 3moMar31	93.9	- 8.1	15.6	16.7	-37.5	6.6	7.1	-30.4
Catalin Corp, 3moMar31	2.6	-17.9	0.04	1.4	-87.8	0.02	0.7	-84.2
Owens Illinois Glass, yrMar31	208.2	- 3.1	42.5	14.3	-23.7	15.6	5.2	-40.4
O-C Fiberglas, 3moMar31	24.4	2.5	3.5	14.4	-30.3	1.0	4.2	-30.2
Amer. Ag. Chem, 3moMar30			2.4		-11.1	1.1		- 4.0
Amer. Ag. Chem, 9moMar30			4.6		- 5.7	2.1		- 3.4
Mathieson, 3moMar31								
Dewey & Almy, 3moMar31	5.8	-18.9				-0.02‡	-0.4	-106.3
National Gypsum, 3moMar31	21.8	0.0				1.6	7.5	-17.0
Smith, Kline, French, 3moMar31	12.0	7.5	3.2	26.5	16.1	1.3	10.8	9.7
Blaw Knox, 3moMar31	39.8	94.7				10.2	2.6	87.1
Freeport Sulphur, 3moMar31	8.2	13.5	1.9	23.1	19.2	1.4	17.7	12.8
Penn Salt, 3moMar31	14.8	2.8						
Pittsburgh Plate Glass, 3moMar31	97.4	- 6.1				8.7	9.0	-18.7
Merck, 3moMar31	29.6	- 1.3	8.1	27.5	- 4.9	2.7	9.3	- 0.4

* Millions of dollars
† Not strictly comparable. 1951 figures include Kelker earnings
‡ Includes dividends and miscellaneous earnings
§ Misleading. 1951 net included dividend from sale of gas interests.
¶ After application of $320,000 tax carryback.

Federal Safety?

Further Federal control of industrial safety regulations may be ahead, if either of a pair of Senate bills becomes law.

One of the bills—sponsored by Minnesota's indefatigable Senator Hubert Humphrey—would set up a bureau of accident prevention in the Department of Labor. This bureau would have nationwide say-so over accident laws and their enforcement. As yet, this is more federal control than the lawmakers will swallow, so the measure (S.2325) is given little chance of passage.

Second measure (S.2714) introduced by Senator James Murray of Montana, would set up a familiar grant-in-aid system, paying state inspectors to check for compliance with Federal law. This is given a 50-50 chance of becoming law.

In the main, industry takes a dim view of both bills. It asks: Why have two sets of safety laws and either one (Murray) or two (Humphrey) sets of inspectors to enforce them? In addition, industry is improving its record by its own efforts; is heeding advice from insurance companies, the National Safety Council, and from industry groups (e.g., the MCA).

As it is now, the Department of Labor spends close to a half million dollars per year in industrial safety work. It runs training courses for state safety inspectors and for management and labor groups. It has issued better than 60 safety bulletins on both the popular and technical levels.

One present shortcoming of safety regulations is their variation from state to state. Uniform Federal regulations would have some advantages.

On this point, though, MCA Secre-

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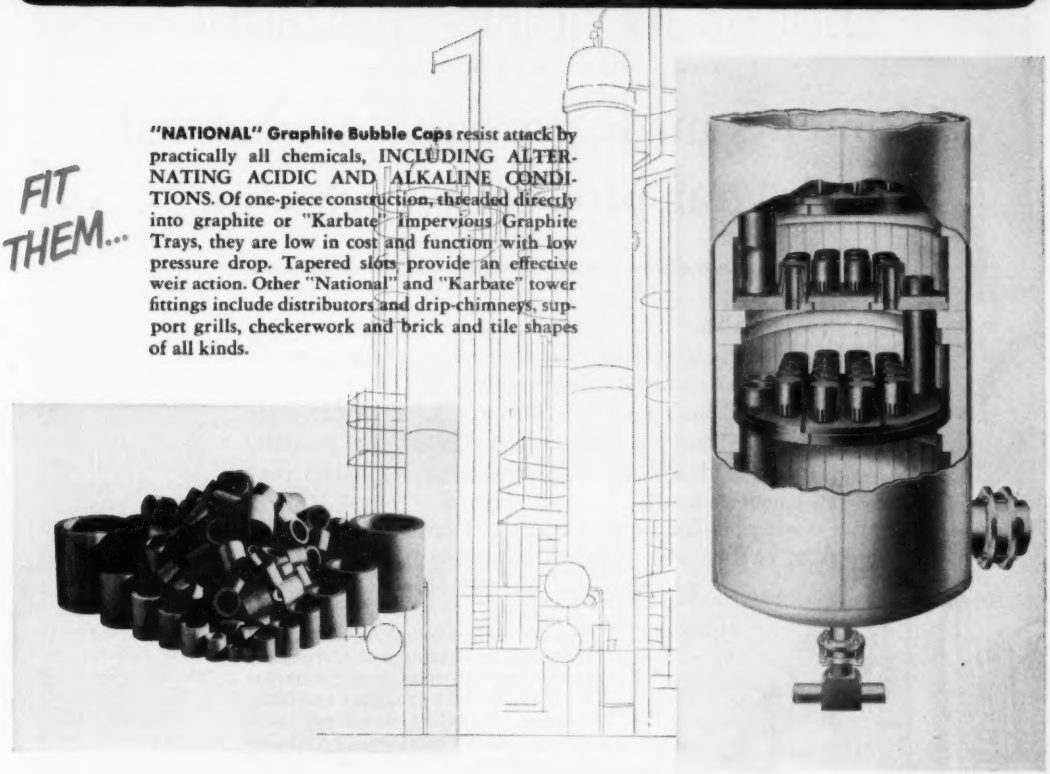

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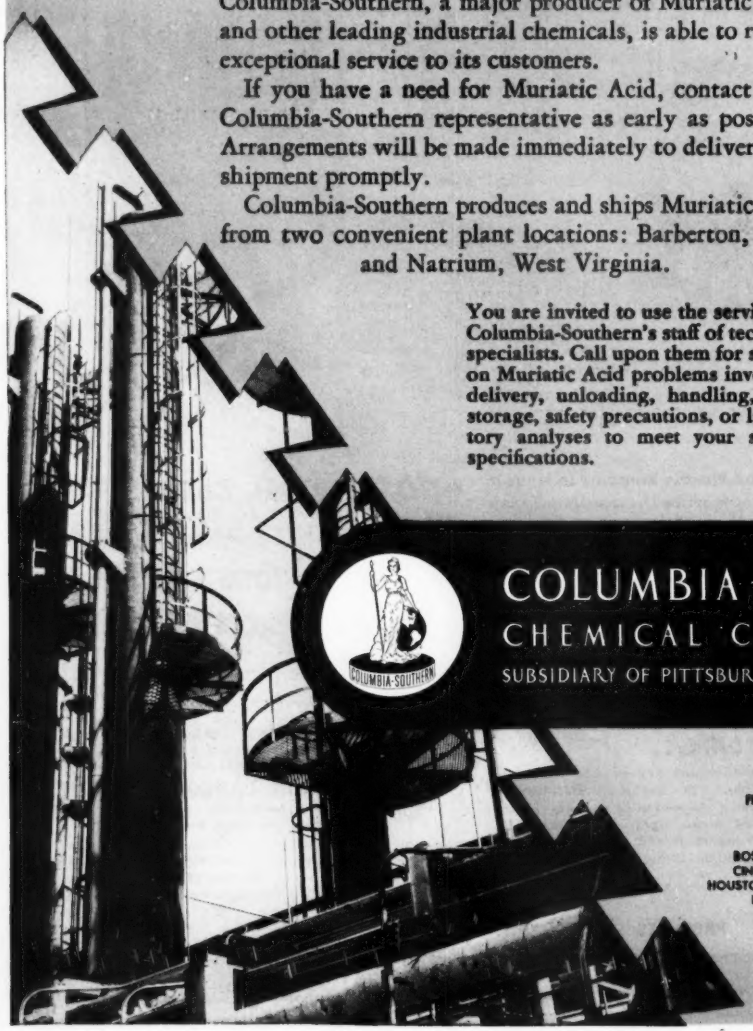

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tary Maury Crass probably expresses the majority stand of industry's Washington watchers. He says, "If the Federal government desires to promote and maintain industrial safety, it can do so best by encouraging the states voluntarily to adopt stricter or more up-to-date rules."

Pyrite Politics

Rumors that the Spanish government has its eye on the British-owned Rio Tinto pyrite mines are now rampant in that country. They have been hotly denied. But seasoned foreign economic observers aren't convinced. Their feeling: Consistent with Franco's industrial nationalization policy, a government move to appropriate the mines is not far off.

In the eyes of many, the handwriting on the wall can be found in the Spanish press. An anti-Rio Tinto Co. campaign—replete with accusations of underpay and unfair treatment—is now in full swing.

Rio Tinto's legal position—it bought its holdings outright from the Spanish Republic in 1873—is solid. But that's little comfort to Rio Tinto management, which recalls all too vividly the Compania Telegraphica case. Owned by I.T.&T., Telegraphica too thought itself on firm legal ground, found itself repurchased by the state in 1945. More recently, Barcelona Light and Traction Co. suffered the same fate.

No Mystery: Franco's motives are hardly a mystery. In the face of skimpy Frasch-mineable sulfur reserves, world demand for pyrites is on the upswing. Twelve mining companies, five of which are foreign-owned, account for the great bulk of production. Rio Tinto is the largest, closely followed by Tharsis Sulfur and Copper Ltd.; both are British-owned. Combined, the two produce 85% of Spain's pyrites.

But Rio Tinto alone accounts for more than two-thirds of the 85%, also controls Tharsis' export operations. The company also owns and operates a 53-mile rail line connecting the mine fields with the bustling port of Huelva.

Spain is in an enviable position where pyrites are concerned, and knows it. The country's deposits are estimated at 273 million metric tons, or 56% of the world's reserve. In 1951, Spanish pyrites exports totalled more than 1.5 million metric tons—an increase of 26.1% over the previous year.

Biggest buyer last year was West Germany, which absorbed 29.1% of total Spanish output. Next came the United Kingdom with 17.3%, Belgium-Luxembourg with 14.9% and the Netherlands with 13.8%.

BADISCHE ANILIN's ABS (left) and KUHN: The philosophy is important.

Permanent Partition?

Reorganization of Germany's I. G. Farben trust will be completed sometime during 1952.

Most plants have been rehabilitated, are managed by three large and several small integrated companies.

The poser: With reorganization complete, will companies stay separate, or will the I. G. be back again?

A recent upswing in chemical imports from Germany and the increasing competition U. S. companies are facing in export markets prompted CHEMICAL WEEK *to query Frankfurt News Bureau Chief Gerald Schroder for a report on I. G. Farben's resurgence. His cabled reply:*

With the emergence of West Germany as an ally in the fight against communism, occupation officers are hoping to complete their work of reorganizing the I. G. Farben trust before the end of 1952.

In the years since 1945, the 215-company trust has been given one of the most drastic treatments ever handed a commercial concern: What had not been destroyed during the war was dismantled, confiscated, decartelized, deconcentrated or made into an independent unit. The compelling cause was not, as it might have been in the United States, bigness or monopoly—though the I. G. had both. Instead, it was the part that the I. G. had played in the Nazi war machine.*

Refinancing this Summer: Three integrated companies—Bayer-Leverkusen in the British zone, Farbwerke Hoechst in the U. S. zone, and Badische Anilin and Soda Fabrik in the French area—which comprise the major portion of the I. G. will be refinanced this summer. Each of the three has been financed with a capital investment of 100,000 Deutschmarks, but this will be considerably increased when the I. G. assets are divided.

In 1944, total company resources were estimated at 3.5 billion Reichsmarks, but before present asset value can be figured, the lost overseas and Russian zone property must be subtracted.

Neither the big three nor the small-

* None of the 23 former I.G. directors tried as war criminals was found guilty of planning an aggressive war, though 13 went to jail on lesser charges. If the corporation itself could have been tried, the verdict might have been different. Said one of the judges' concurring opinions: "If a single individual had combined the knowledge attributable to the corporate entity and had engaged in the course of action under the same circumstances . . . it is extremely doubtful that a judgment of acquittal could properly be entered."

er splinters (*see table, right*) know how much they will get when division takes place, and each is scrambling for as large a share as it can get.

The frigidness of so much company capital has hindered the new companies' rebuilding and establishment of overseas sales points. But on the other hand, no one in Germany would have guessed that in seven years all I. G. stockholders would receive new shares in healthy, going concerns.

At present, occupation authorities plan to issue each of the 140,000 I. G. shareholders a proportionate number of shares in each successor company. The new shares will be registered in the owners' names. At first, free trading of the shares will not be allowed.

Selling over Par: The shares of the old I. G. are now selling in Switzerland at 140% to 150% of par value, a good post-war recovery in itself;

Splinter Summary

Bayer-Leverkusen has plants at Uerdingen, Dormagen and Elberfeld, plus the Agfa photographic film and paper operations.

Farbwerke Hoechst of Frankfurt includes facilities at Griesheim and Offenbach, plus the Lech Chemic works. Subsidiaries include the Knapsack carbide plant, Behring Werke Marburg, the synthetic fiber plant at Bobingen and Fassholzfabrik Goldbach.

Badische Anilin includes a cluster of plants at Ludwigshafen and Oppau.

Independents and plants still to be reassigned include a number which were controlled, but only partially owned by the I.G. These include Casella Farbwerke-Mainkur, Chemische Werke Huels, Dynamit A.G., Kalle & Co., Dr. Alexander Wacker G.m.b.H., Wasag Chemie, Duisburger Kupferhuette and Rottweil a.N.

Real Boost for Morale

THE DRESS is synthetic, but the model's real enough to evoke a smile—if not a whistle—at the Leverkusen, Germany, chemical plant. It's part of a "fashions returning to their birthplace" stunt: A group of Berlin models toured the plant turning out the synthetic textiles from which the fashions were made. They got a kick out of seeing the reactors; the workers got a pleasant boost in morale.

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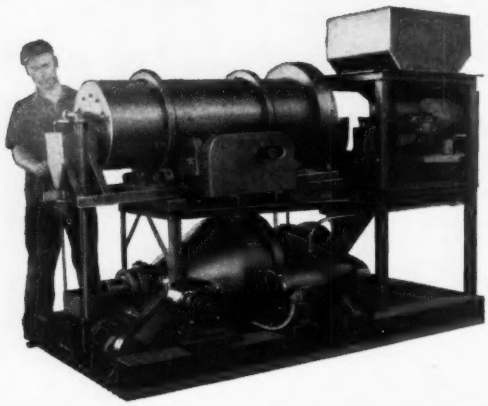

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another indication of the health of the German chemical industry comes from this rundown of money value of production, sales and exports for those located in the U. S. zone:

	Production	Sales	Exports
1947	231	243	5
1948	398	424	28
1949	510	497	66
1950	686	707	177
1951	1,030	1,065	283

(All figures, million reichsmarks or deutschmarks)

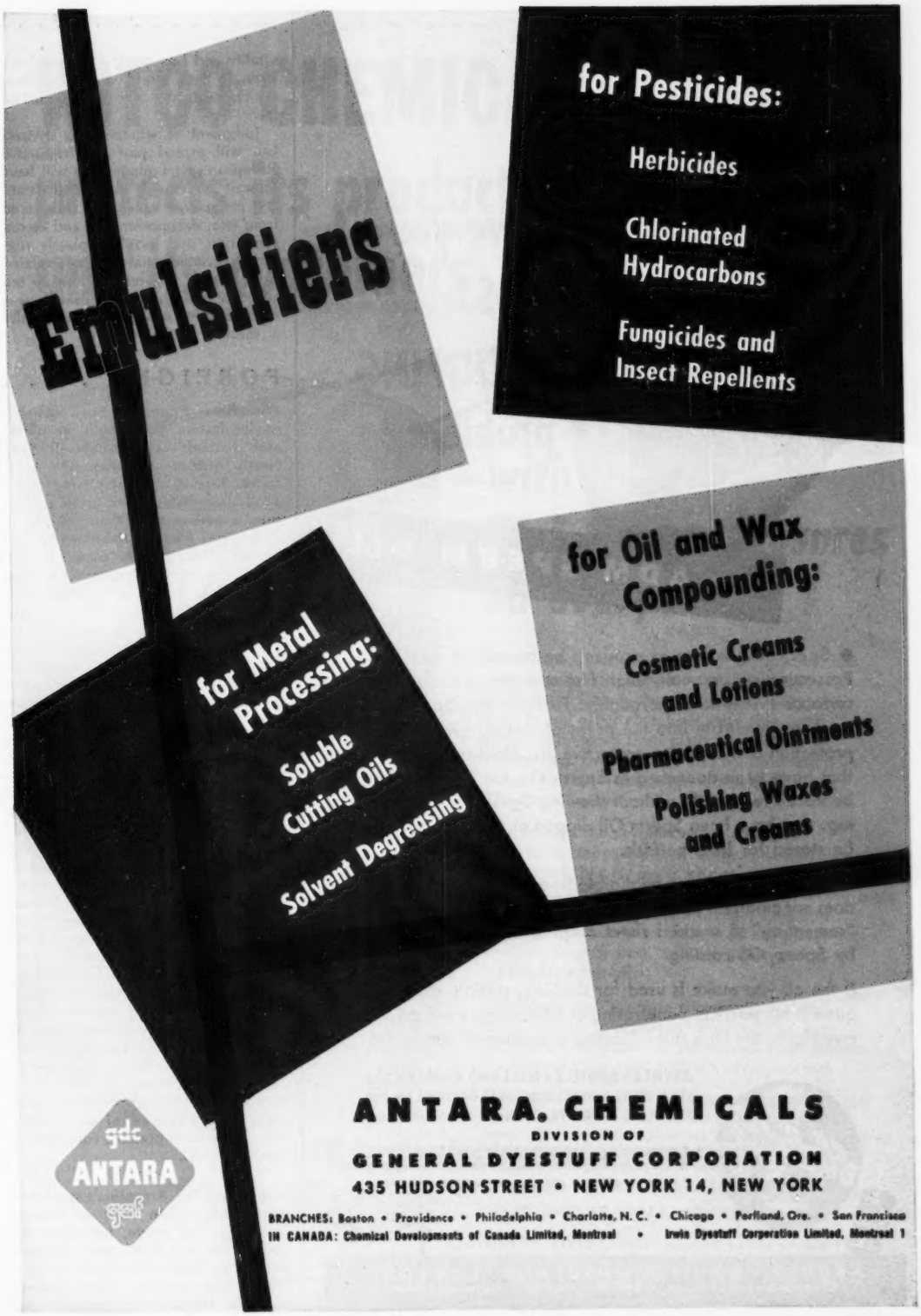
Compared to the pre-war organization, present companies are at a disadvantage since intermediates may no longer be sold to one another at cost price. Despite this, both the Germans and the occupying powers are convinced that the larger units can exist on their own feet. Germans seriously doubt whether all of the smaller units can do this well, but as yet it is still idle speculation whether they will be reconcentrated into the Big Three, and if so, where they will go. The trend, however, is from the "uneconomical" to the "paying" unit.

Allied Control: Operation of the units is handled by the Tripartite Farben Control Group (TRIFCO) with headquarters in Frankfurt. Although housed under one roof, administration differs in the zones. While the British and French seem to concentrate their efforts on supervision within the plants, the Americans generally are more precise in applying Allied laws on personnel matters and policies.

There has been some controversy over the return of old Nazis to positions of trust in successor companies. Admittedly, a number of former party members are now on company boards. However, it would be almost impossible to check through a roster of German businessmen and not find a large number of such men. Hermann Abs (Badische Anilin) and Ulrich Haberland (Bayer-Leverkusen) are especially cited. Some controllers are doubtful about Richard Kuhn, who under Hitler's orders refused a Nobel prize. But right now, since Germany is a Western ally, the fact that these men were never out-and-out war criminals seems to be enough.

The philosophies of members of the boards of control will mean a lot more once allied occupation ends. The fact that they were associated with the prewar I. G. may foster a tendency toward recartelization. Whether, over the coming years, new ties will be formed depends a great deal on what kind of anti-trust laws are enacted shortly by the German Republic.

The German chemical industry has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vitality and bounce. It has come back strongly into world markets. These are characteristic of a dynamic industry.

Judgment of whether this dynamism will extend past the traditional European cartel-mindedness will have to wait for two or three years—until the companies have fully recovered from war, deconcentration and reconcentration, and have completely regulated their financial and legal affairs.

Only then will one be able to tell whether the great experiment was economically, financially and legally a success.

FOREIGN . . . . .

Phosphate: France is busy spurring modernization plans—both in plants and methods of extraction—for her North African phosphate-rich territories. Reason: She is aiming for a 1952 phosphate output of 8 million tons, a million more than last year's.

Tunisia, where production is expected to exceed more than 2 million tons this year, is the important starting point. Here numerous factories such as the Gafsa company's plant are springing up rapidly in the phosphate areas. The Tunisian Phosphate Co., in addition to improving its mining and processing methods, is renewing equipment at the La Goulette installations and sinking a new shaft at Kalsa-Djerda. Tunisia port installations have already been transferred to La Goulette, making possible the regular loading of vessels in deep water, and a resultant upswing in production from 123,172 tons in 1950 to 183,365 tons last year. Furthermore, new mining veins in this region are scheduled to be brought into production this year.

Senegal's two phosphate deposits surpass even Morocco's richest layers in high lime content. Mining at Thies alone will yield an estimated annual production of 150,000 to 200,000 tons. The Thies Societe d'Etudes et d'Application des Mineraux, moreover, controls the special processing methods used in transforming alumino-calceous phosphates into a largely soluble fertilizer, called "Phosphal." In 1951 a new Phosphal factory went into operation and 18,000 tons of the fertilizer were mined and purified, compared to 4,600 in 1950.

•

Tobacco: From Argentina's surplus of some two million kilos of tobacco sweepings and waste, has come the production of a 99.6% pure nicotinic acid. This degree of purity is superior to that required by U.S. authorities. The Argentine Ministry of Indus-

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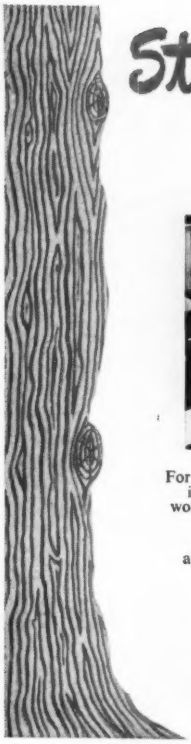

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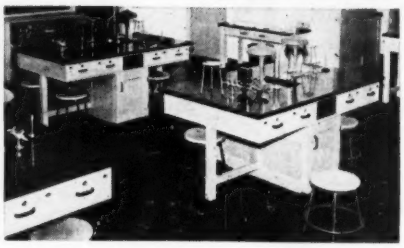

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try and Commerce, announcing the results of its Tobacco Dept.'s experiments on the tobacco sweepings, reports that research is concentrated now on the problem of finding an economic means for producing the acid on a commercial scale. The acid is utilized in the treatment of vitamin B deficiencies.

•

Dihydro Streptomycin: Dihydro streptomycin will be produced in Brazil for the first time when the French-controlled chemical combine Cia. Quimica Rhodia Brasileira S.A. will manufacture the compound in addition to crystallized penicillin G. Technical assistance will come from Merck & Co. and the Societe Rhone Poulenc of France.

•

Sulfuric Acid: Acting jointly, two firms —Thomas Hedley & Co. (soap and detergent member of the Procter & Gamble group of the U.S.) and Peter Spence & Sons of Widnes, England— have formed a new company for the purpose of producing sulfuric acid, thus increasing the country's output of this scarce commodity. The company will be known as Widnes Oleum Co. A factory now being erected at Widnes is expected to begin production during the latter part of this year.

KEY CHANGES . .

Morse G. Dial: From executive vice president to president, Union Carbide & Carbon Corp.

E. D. Peck: From general paint manager, merchandising div., to vice president, Pittsburgh Plate Glass Co.

Kenneth H. Hannan: From secretary and assistant treasurer to treasurer, Union Carbide & Carbon Corp.

William A. Casler: To manager of program development, Armour Research Foundation, Illinois Institute of Technology.

Harold W. LeBoeuf: To production supervisor, silicone plant, Waterford, N.Y., chemical div., General Electric Co.

William A. Judd: From Sterling Drug Mfg. Ltd., to manager, St. Thomas, Ontario plant, Vick Chemical Co., Inc.

G. A. Copeland: From manager of accounting div. to assistant comptroller, Standard Oil Co. of Calif.

William R. Bradley: To president, American Industrial Hygiene Assn. He is chief industrial hygienist, American Cyanamid Co.

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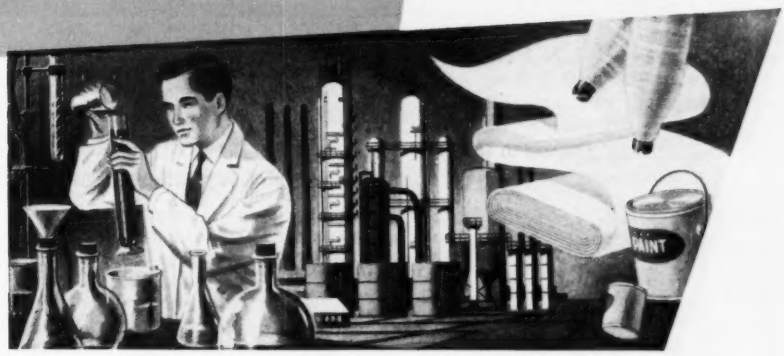

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RAND and BINNEY: Research is at least part of the answer.

Research To the Rescue

Hit hard by the slump in textiles, New England now is actively engaged in a campaign to bolster its industry, lure new industry to the area.

Research is both the means and the bait.

To aid the cause, Boston recently staged a Research Day, reaffirmed the importance of research to industrial progress, showcased its concentration of industrial research facilities.

By this week it was painfully clear that New England's textile and leather slump is more than a transient quirk of our economic system. But another, more heartening fact also is becoming evident. Despite the prophets of doom, New England isn't resigned to its fate. It's making a conscious effort to offset its loss in traditional industry with a buildup in new areas of manufacture. Research is the key to these plans.

The New England attitude is neatly expressed in the words of Ralph M. Binney, president of the Boston Chamber of Commerce and a force behind the current industrial push:

"Due to the wide publicity given to the diminishing of the textile and boot-shoe industries in New England, some New Englanders have a negative outlook about this region's prospects. The truth of the matter is, that if New England business takes advantage of the opportunities presented in the making and marketing of new products coming out of the Boston-Cambridge research area, we can make twice as many jobs as the number lost."

Sustained Effort: Binney's estimate may be optimistic. But one thing is sure: Boston means business. Proof was the Research Day proceedings held April 18 in the city's bustling Sheraton Plaza hotel. In the course of an affair starting early in the morning and running well into the night, Boston spared no effort to sell its businessmen on research.

From the dais of the Sheraton's galleried grand ballroom, exactly at 9:30 A.M., Binney greeted the more-than-200 businessmen seated at long, green-clothed banquet tables. He explained that the ensuing program was designed for laymen and company policy-makers, hinted at better days ahead and castigated skeptics with his "You're crazy if you sell New England short."

Fifteen minutes later, William M. Rand—former Monsanto president acting as general Research Day chairman—sliced into the meat of the program. Rand's keynote address set the tenor of the meeting, placed the Day's em-

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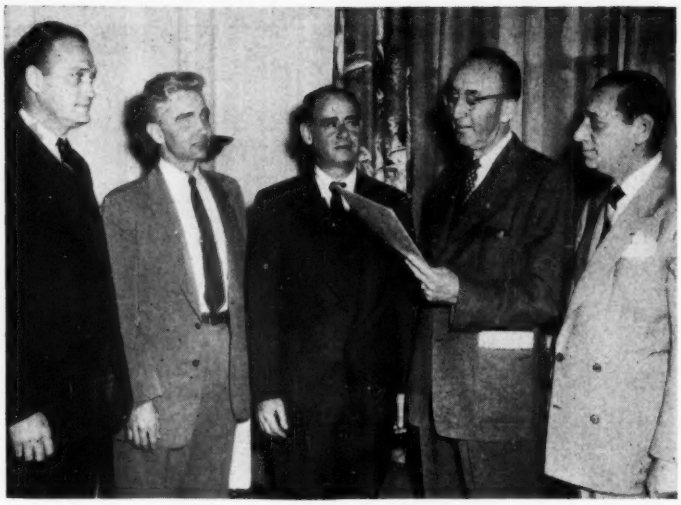

DOAN (second from right) and CHEMICALS PANEL: Without research . . . nothing.

phasis squarely on small business.

Said Rand: ". . . Research should be employed to a greater degree in small companies. There is scarcely a manufacturing corporation which could not improve its position by a study of its raw materials, its processes or its product. If the company is too small to support its own research staff, there are available consultants who could be helpful."

Nailing a Point: And, in Rand's words: "The amount of research employed by a corporation is a fairly accurate barometer of . . . future success." To nail his point, Rand turned the chair over to J. P. Stevens, Jr., president of J. P. Stevens & Co., Inc., and moderator of a fibers panel, the first of four panels made up of management and research people representing successful corporations.

Stevens' fibers group got off to a flying start. Panelist Joseph B. Quig (manager of Du Pont's textile research division) called attention to his Dacron suit, revealed that over 50% of Du Pont sales in 1950 came from products that were not known in 1930. Giles Hopkins of The Wool Bureau, Inc., made it known that his suit was of wool, pointed up potentially profitable areas of fabric study.

Warner Eustis of The Kendall Co. gave an insight into research at his organization, noted that it is aimed at new product development, spreading the sales base. John K. Park (Owens Corning Fiberglas Corp.) outlined the role of research in the Fiberglas story. Elmer L. Ward, president of Goodall-Sanford, Inc., capped the fiber doings with his observation of the growing importance of blends in fiber utilization, finished up with a reassuring, ". . . Problems can be solved as well in New England as any place else."

Chemicals picked up where fibers left off. Confirming the now-indisputable value of research to industry, moderator Leland I. Doan, president of Dow Chemical Co., bluntly stated that "without research there would not be a Dow Chemical Co." He cited the proved ability of research to create jobs, used the development of polystyrene to illustrate how chemical research created a new industry.

Blessings: Panelists Charles H. Sommer (manager of Monsanto's Merrimac Div.), C. A. Stokes (research director of Godfrey L. Cabot, Inc.), Saul Palais (president, Bay State Chemical Co.) and Joseph M. Hamilburg (president, Plymouth Rubber Co., Inc.) further substantiated the many and varied blessings of research.

And so it was. Straight through the remaining electronics and metals panels, the testimonials to research were glowing. But all was not rhetoric. Immediately after the $5-a-plate luncheon, the gathering was treated to a dramatic display of Boston-area "research in action."

Researchers of High Voltage Engineering Corp. (Cambridge) demonstrated a 250,000-volt electrostatic generator illustrating the underlying principle of the multimillion-volt Van de Graaff generator. Polaroid Corp. (Cambridge) X-rayed an industrial product on the ballroom stage, produced the finished picture within two minutes. National Research Corp. (also of Cambridge) displayed its in-

tegrated process for deposition of metal films on plastics and metals.

Show Stealer: But in the opinion of many, the Arthur D. Little Co. demonstration stole the show. Billing the stage of the Sheraton Plaza ballroom as "the coldest spot in the world," the A. D. Little people did their best to prove the point with an honest-to-goodness sample of liquefied helium. Generous volumes of liquefied nitrogen were also consumed to solidify mercury and freeze rubber to brittleness—all to highlight the new research field of cryogenics.

By evening and guest-of-honor James B. Conant's speech, Boston businessmen were duly respectful of, and slightly awed by, the magic wand of research. It had been waved before them for almost twelve hours as the answer to the region's declining textile and shoe industries. But many still couldn't help wondering whether deep-rooted problems of taxes, labor and machinery could be whisked away that easily.

New Fungus Foe

A new antibiotic, reported to be the first effective against pathogenic fungi, is now being evaluated. It's Vivicil, a product of research at Schenley Laboratories' Division of Microbiology. Vivicil could prove a valuable companion to the well-known antibiotics, none of which has significant therapeutic activity in mycotic infections of man and animals.

In vitro, the new antibiotic is active against practically the entire gamut* of pathogenic fungi. Pharmacological evaluation, recently launched, is based upon preliminary indications of the substance's relatively low toxicity.

Vivicil was discovered during a search for new chemotherapeutic agents to be used in the fight on disease-causing fungi. It's produced by a strain of Bacillus subtilis (FC 5036) isolated from fresh Ohio River mud at Lawrenceburg, Ind.

An interesting sidelight on the drug's antifungal activity is its marked potency against the Candida albicans fungus, a bad actor responsible for many serious diseases. Aside from its other black marks, the organism has been associated with fatal infections following the administration of antibiotics like penicillin, aureomycin and chloromycetin.

•

Turpentine Gift: Department of Defense reports that Navy and Department of Agriculture chemists have

* Including many Blastomyces, Candida, Coccidioides, Cryptococcus, Epidermophyton, Microsporum, Pitysporon, Trichophyton and Trichosporon organisms.

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succeeded in making synthetic lubricants from turpentine. It's done by reacting turpentine-derived pinic acid with high-boiling alcohols. Oils for aircraft engine lubrication, instrument oils and greases, and hydraulic lubricating fluids have been produced.

•

Breakdown: Of the Air Force's new half-billion dollar research and development appropriation, about 73% will go to industry in research contracts, about 7% to non-profit institutions, 5% to other Government agencies and 15% to intramural research. Most Air Force research contracts are fixed-fee deals.

•

New Labs: Construction of an eight-building research center for Dow Chemical Co.'s Texas division will begin shortly at Freeport, Tex. Successful bidder for the project, estimated as a $2.6 million-job: Southwestern Construction Co. (Houston). The 69,000 square feet of new construction will be devoted to organic, electrochemical and chemical engineering research. The center also will include an analytical laboratory, administrative offices, patent office and library. Completion is scheduled within 15 months.

•

Pressure Upper: Wyeth Institute of Applied Biochemistry, research arm

Expansion Pilot

CHARLES B. HEMMING, newly appointed technical director of United States Plywood Corp., will head the company's research expansion in the field of low pressure plastics. Plywood's first step in that direction is a brand-new central control laboratory in New York City. The new lab will coordinate the activities of the company's six other research labs.

of Wyeth, Inc., has developed a new drug for boosting blood pressure. It has been named Wyamine Sulfate, chemically is methyl phenyl-*tert*-butylamine.

•

Labeled: Radioactive-labeled parathion has been prepared by researchers of Kansas State College for studies of the insecticide's mode of action and metabolism. Phosphorus trichloride, containing isotopic phosphorus-32, was used in the synthesis.

•

New Reactor: Atomic Energy Commission's new materials testing reactor is now in operation at National Reactor Testing Station, Idaho Falls, Id. The reactor became "critical" on March 31, is gradually being brought up to full power by the operating contractor, Phillips Petroleum Co.

The materials testing reactor provides much-needed facilities for determining the effect of intense radiation on materials considered for use in the structures, heat-transfer systems and shields of new reactors.

In addition to its testing function, the new reactor contains features which may prove of value to reactors still on the drawing board. Example: Enriched uranium fuel is contained in units designed for rapid heat transfer.

Cost of the reactor, excluding research and development, is pegged at $18 million.

•

Mystery No More: Structure of the highly unstable antibiotic mycomycin is no longer a mystery. Pfizer chemists W. D. Celmer and I. A. Solomons report it to be 3, 5, 7, 8-tridecatetraene-10, 12-di-ynoic acid. Mycomycin has little commercial value at this time. But it's one of the few antibiotics known to have a relatively simple chemical structure; synthetic analogs may be found with increased stability and germicidal effectiveness.

•

Cortisone Probe: Nobel Prizewinner Sir Robert Robinson is now hard at work in his Oxford laboratory on a practical total synthesis of cortisone.

First experiments were directed toward the synthesis of 3-methylcyclopent-2-enone from acetylacetone. Robinson hopes to utilize the cyclic ketone in a Diels-Alder reaction with a methoxy butadiene to build up a sterol derivative.

•

Selective For Sodium: Researchers J. I. Bergman and Y. Mwiata of National Aluminate Corp. (Chicago) have synthesized a series of phosphonous and phosphonic cation-exchange resins which exhibit unique chemical characteristics.

A PRACTICAL APPROACH for Using...

POLYCO BUTADIENE-STYRENE LATICES with Compounding Ease

Now, for the first time, there is available from a single source of manufacture a complete range of butadiene-styrene latices wherein the composition of both the copolymer system and the emulsifier system can be selected for your specific application.

Note series of acid and metal-ion stable latices developed to offer widest possible latitude in compounding, consistent with economy and versatility.

ROW*	BUTADIENE-STYRENE RATIO	COLUMN† A	COLUMN† B	CHARACTERISTICS AND USES
1.	0/100	220RS	220NS	Discontinuous, flaky film.
2.	20/80	398-20RS	398-20NS	Discontinuous film, Reinforcer and drier.
3.	30/70	335-30RS	335-30NS	Continuous, slightly flexible film. Tough and horny. Reinforcer and drier.
4.	35/65	350	350-35NS	Continuous, clear to slightly hazy film. Tough and flexible with no tack. Base for water. Paints and paper coatings.
5.	40/60	350-S	350-N	Continuous, clear to slightly hazy film. Tough and flexible with slight tack. Paint, paper, leather and textile coatings.
6.	50/50	417-50RS	417-50NS	Continuous clear film. Tough and flexible with slight tack.
7.	70/30		397-70NS	Continuous, clear film. Very flexible. Extender for GRS and natural rubber. Adhesive base.
8.	100/0		418-100NS	Excellent extender for GRS and natural rubber latices.

*Polycos in the same horizontal row have essentially same film characteristics.

†Column A lists anionic latices based on rosin soaps and stabilized to mechanical action and foaming.

†Column B lists latices stable to acids and metal-ions. Latices in A and B available at 45% total solids content.

Coating, adhesive and saturant users should check their requirements against this table.

For complete information send for data sheet P-24.

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DOW CORNING SILICONE NEWS

NEW FRONTIER EDITION

EIGHTH OF A SERIES

Tall Tale to Fabulous Fact

Speaking of bouncin' recalls the time Cyclone Sue defied Pecos Bill on their weddin' day by trying to ride his horse. Got throwed so high she had to duck to miss the moon. When she came down a couple hours later, she lit square on her spring steel bustle and bounced back to the moon. Finally, after 3 days of bouncin', Bill relented and pulled the Gulf of Mexico over for her to land in. Caused a tidal wave that swamped Corpus Christi, but Sue came out gentle as a dove.

Pecos Bill never claimed credit for inventing the idea of absorbing motion in a body of water. Maybe he guessed the future usefulness of such fluid damping might be sadly limited by the fickleness of fluids. At low temperatures, they no longer flow; at high temperatures they thin out or evaporate.

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Dow Corning 200 Fluids are used to do all sorts of "impossible" things. They eliminate the fluttering of the instrument pointers on your dashboard; keep your car door locks from freezing; reduce the torsional vibration of crankshafts in automobile and diesel engines.

These and many other fabulous facts are described in our newest publication, "What's a Silicone?" We'll be glad to send you a copy. Simply address your request to Department BR-17.

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RESEARCH . . . . . .

Cation-exchange resins available thus far belong to three major types: those containing sulfonic, carboxylic or phenolic groups as exchangeable cations. The new phosphorus-containing resins are apparently the first to show a selectivity for sodium over potassium.

Potential applications: rare earth separations; physiological applications; mixed bed demineralization.

•

NSF Fellowships: National Science Foundation has awarded 624 graduate fellowships in the natural sciences for the academic year 1952-53. A total of 169 (27%) of the awards was made to first-year graduate students—a sharp departure from previous Federal fellowship programs in which the major emphasis has been on awards to advanced students. By this policy, the Foundation hopes to encourage college graduates with scientific aptitude to continue their studies in preparation for research careers.

•

Hot Glycerol: Researchers of United States Testing Co., Inc. have topped off four years' work with the first successful commercial-scale synthesis of radioactive glycerol. United States Testing was commissioned for the job by AEC in 1950.

Although radioactive glycerol has previously been made in trace quantities, the new technique makes available the first commercial lots of the labeled compound. Uses are in studies of biological processes like fat metabolism, bile secretion and growth processes.

•

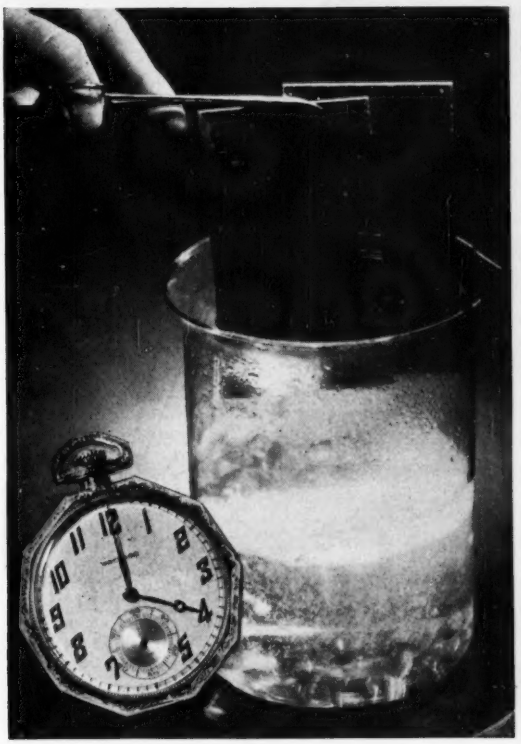
Add Four: Four compounds are newly available as American Petroleum Institute samples. They are: 2-phenyl-2-methyl butane; trans-3-heptene; 2-cyclohexyl-2-methyl butane; and 2,2-dimethyl-trans-3-hexene.

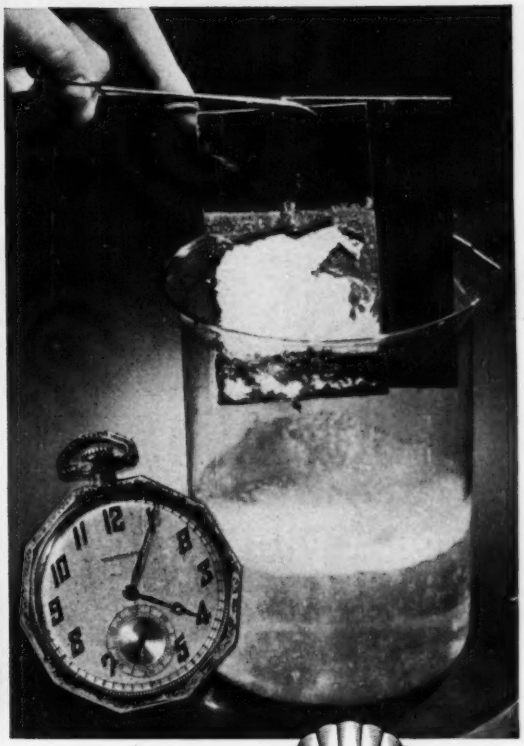
•

Nix On Salt: Two authorities on dental hygiene issued a joint statement in San Francisco recently condemning as impractical a recent suggestion (*CW Newsletter, Apr. 26*) of Gunnar Santesson, Swedish scientist working at the University of California, that fluorides be added to table salt as an alternative to fluoridation of drinking water. They're Eldridge L. Hicok, president of Calif. State Dental Assoc. and Hugh M. Kulstad, chief of the Calif. State Division of Dental Health.

Their argument: Salt isn't uniformly consumed, particularly by small children and infants. And the use of salt with a constant fluoride content wouldn't be practical in view of the widely varying natural fluoride-content of water supplies.

Why long immersion in hot caustic won't harm EPON RESIN finishes





Try this test and see the difference

The Set-Up. One panel is coated with a widely used finish, the other with an Epon® resin finish. Both strips are then suspended in 20% boiling caustic for five minutes.

The Result. When the panels are removed, the conventional finish will be destroyed. The Epon resin coating, resistant to the corrosive attack of caustic solutions, remains unaffected.

The Reason. Epon resins are an entirely new class of condensation polymers . . . with *an ether linkage* instead of the usual ester bond. Thus Epon resins have unparalleled resistance to detergents, caustic solutions, many acids and stain-producing agents. And the inherent inertness of Epon resins is combined with flexibility and toughness never before achieved in a resin-type finish.

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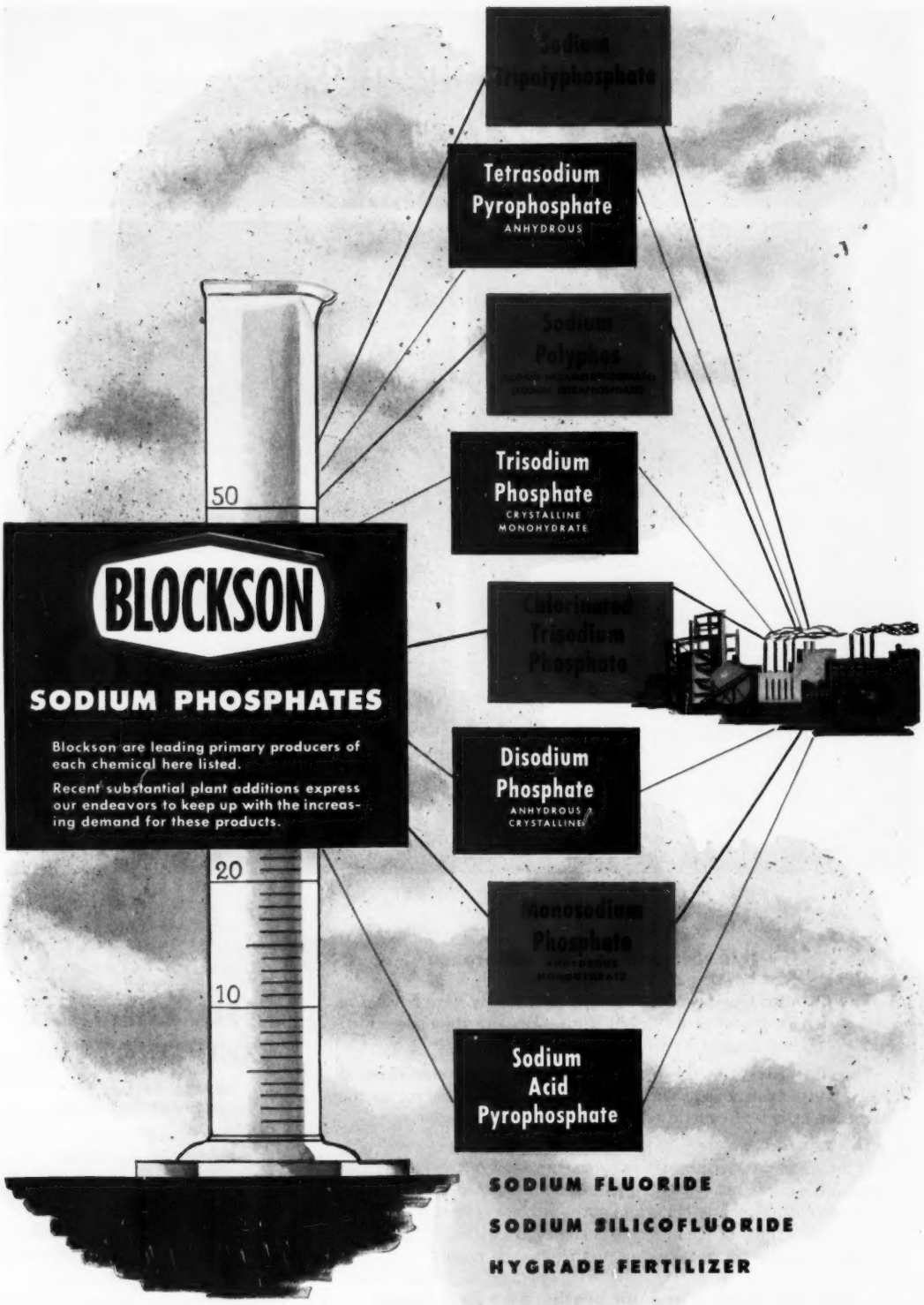


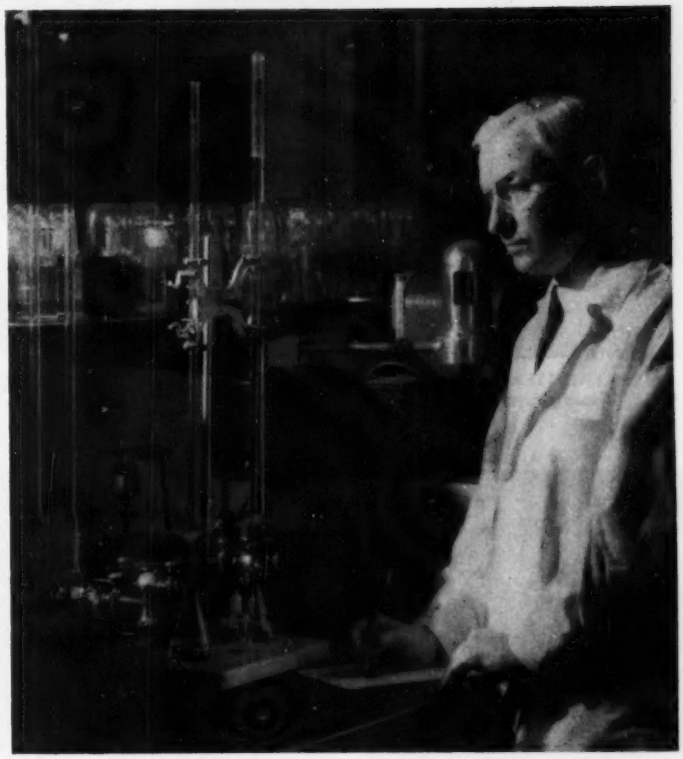
BLOCKSON CHEMICAL COMPANY • JOLIET, ILLINOIS

Infrared Steps In to Battle

Because they give quick, reliable answers to the quantative and qualitative questions of the analytical chemist, infrared spectrometers are firmly entrenched in research and control labs. They have even given indication of moving right into the production line (*CW, July 14, '51*). But they are expensive and call for a Ph.D. to interpret results. So most of the instruments now in use are found among the big companies with high-salaried research staffs.

There isn't much that can be done about the initial cost, but Perkin-Elmer, one of the manufacturers, recently opened a technical service lab to reduce the need for specialists.

One of the first customers at the new lab was the Pond's Extract Co. Pond's raw material analysis was consuming many man-hours; it also destroyed the sample. Since the company frequently works with expensive ingredients, destruction of samples could be an expensive proposition. Moreover, the company was eager to learn how infrared would fit into its research and new product development. After initial tests looked promising, more extensive tests—on a wider range of samples—were carried out. Pond's bought an instrument last week; reports it is happy with its new analytical method. Perkin-Elmer is happy too for it figures it has found a way to sell more instruments.



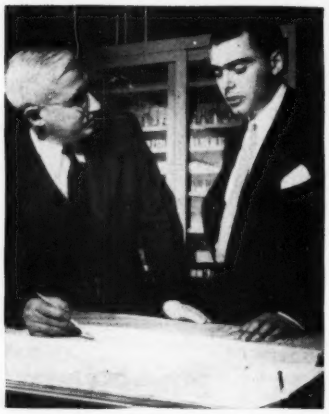
1 POND'S H. LUNDIN, chief analyst, makes chemical check on raw materials.

. . . Material Control Problem

2 BUT METHOD is time-consuming, tedious, also destroys frequently expensive samples. And Perkin-Elmer has just set up a laboratory at its Norwalk, Conn., plant (above) to show how infrared can handle such problems. At right, Pond's manager, Walter Taylor (left) and Lundin visit the new lab. They talk the problem over with Van Zandt Williams, P-E's director of sales and research. They also ask Williams how infrared can help in Pond's research and product development.

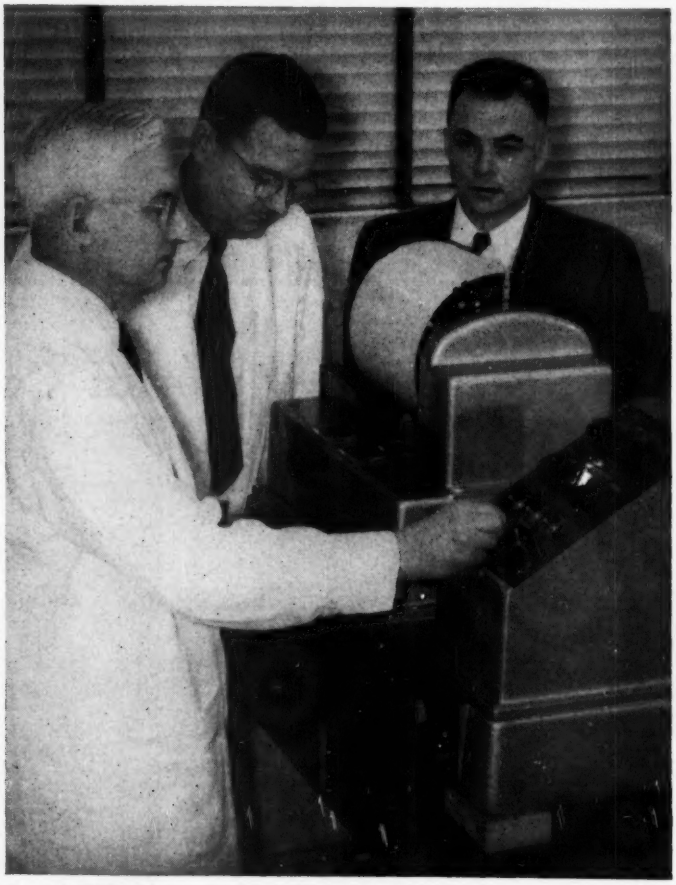
3 HELENE STERNGLANZ, chemist in P-E lab, prepares Pond's sample, runs off spectrum in eight minutes and . . .

4 SHOWS IT TO HARRY HAUSDORF, head of lab. By comparing it with standard, he quickly spots impurities.



5 AFTER MORE TESTS, Hausdorf and Lundin go over results in detail.

6 WILLIAMS explains infra-red procedure, spectra library to Lundin.



7 POND'S DECIDES TO BUY INSTRUMENT. As Lundin puts machine through its paces in Pond's lab, Assistant Manager Moody Crowder and Taylor look on.

You wanna buy some ISCO wax?

FACTS ABOUT ISCO WAXES

Carnauba #3 North Country	
M.P.	182/184°F
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Sapon	72/77
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M.P.	145/151°F
Acid No.	25/33
Ester No.	0/4
Sapon	25/37
Flash Point	446°F
Japan Wax Substitute #525	
M.P.	135/136°F
Acid No.	9/10
Ester No.	177/180
Sapon	186/190
Penetration No.	18/19

Citrus fruits are covered with a film of wax, deposited by dipping the fruit in a mixture of Carnauba and other vegetable waxes. The coating fills the pores, and helps prevent decay by sealing the skin.

Fruit dipping is only one of the many applications for Isco Carnauba Wax, valuable to industry chiefly for its outstanding hardening and polishing properties. It is the mainspring of the floor polish industry and is also used for automotive, shoe, and furniture polishes.

Carnauba contributes its special characteristics to such diverse products as cosmetics and candles, photographic film and phonograph records, chewing gum and carbon paper. It enters into the manufacture of chalk, matches, protective coatings, paper sizes, soap and lubricants.

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Methyl Ethyl Ketone
Ethyl Ether
Isopropyl Ether
Diisobutylene
Polypropylenes
Butadiene
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Pollution Progress

Just celebrating its fourth anniversary, the Los Angeles County Air Pollution Control District took advantage of the occasion to note that a daily 530 tons of material that were formerly released to the atmosphere are now recovered or collected or otherwise prevented from becoming a source of air pollution.

Biggest contributors in the general improvement have been the oil refineries in the area. All told, they are recovering 300 tons of sulfur dioxide daily and converting it to commercial sulfur and sulfuric acid. In addition, refineries and tank farms are collecting about 80 tons a day of unsaturated hydrocarbons—only recently identified as pollutants.

Better industrial and commercial incinerators are saving some 80 tons of material from becoming air pollutants; and control devices in industrial plants are collecting another 60 tons of dust, fumes and mists.

•

Chromic Handling: Last week the Manufacturing Chemists' Association published its Chemical Safety Data Sheet SD-44, recommending practices for the handling and use of chromic acid. The M.C.A. data sheet gives a quick rundown on safe methods of loading, unloading, shipping and storing. It gives the I.C.C. requirements for shipping and labeling the chemical. Also outlined are programs for employee education, instructions for physical examination and medical treatment of exposed personnel, as well as proper use of protective equipment. Says M.C.A.: "Many years of experience have shown that chromic acid can be safely stored, handled and used if the hazardous properties are thoroughly understood and proper safeguards are always employed."

On the Spot

Always on the lookout for new applications for its vermiculite, Zonolite Co. (Chicago) is pushing a new technique that gives an interior coating to process vessels too large to be handled in conventional baking ovens. Briefly the method works like this: A ⅜ in. layer of vermiculite high-temperature cement is blown on the outside of the vessel. That acts as an insulator, prevents excess radiation losses. Then the first coating of phenolic resin or other protective material is applied to the inside; raw flame from a propane gas burner bakes the resin and dries the vermiculite cement. The procedure can be repeated to build up the desired thickness. Each interior coat takes about six hours.

Zonolite figures the method permits application of an on-the-spot corrosion-resistant lining that would be impossible without the insulation. It reasons that radiation from large metal areas would prevent the build-up of proper heat levels; thus the required baking temperatures of 350-500 F. would be practically impossible to maintain.

As far as costs are concerned, Zonolite estimates the vermiculite cement coat costs about 15¢ per sq. ft. (interior coat of phenolic resin would run about $1.50, a rubber one, $4.00). It says use of the method cuts fuel costs, reduces baking time, makes possible wider use of coating. And it points out that, since vermiculite is non-combustible, it reduces the fire hazard.

In all applications to date the insulation has been removed, but it could be left on and any chips or cracks mended with additional cement.

EQUIPMENT. . . .

New Coupling: Now in production in the aircraft division of E. B. Wiggins Oil Tool Co., Inc. (Los Angeles), a new coupling has been designed for transfer of corrosive or dangerous liquids. Wiggins reports that nitric acid, titanium tetrachloride and other fluids have been handled without loss after the coupling was disconnected. Two self-closing valves, one in either half, fit flush with both ends. As an extra safeguard, the coupling has been designed so that it cannot be disconnected until both shut-off valves are turned.

The coupling was designed for fueling missiles and rockets but has been used on fuel lines between shipping containers and storage tanks. It is built of stainless steel, is currently in production to fit ¾ in. and 1¼ in. pipes. It will stand up under temperatures in the 65-400 F range.

•

Pressure Pump: Texstream Corp. (Houston, Tex.) is now turning out a high pressure injector pump (Model MSM 5001). Working on 50 lbs. of feed pressure (liquid or gas), the pump will produce up to 20,000 lbs. discharged pressure. Texstream reports the pump was developed to inject chromates and rust inhibitors into high-pressure oil and gas lines, is now finding its way into other process applications. Weighing 62 lbs., the pump is supplied with either ¼ or ½-in. stellite pistons and valves when used for sustained high pressure. For lower pressure, 1 in. stainless steel valves are used. Since mechanical parts operate in an oil bath, they are protected from atmospheric contamination.

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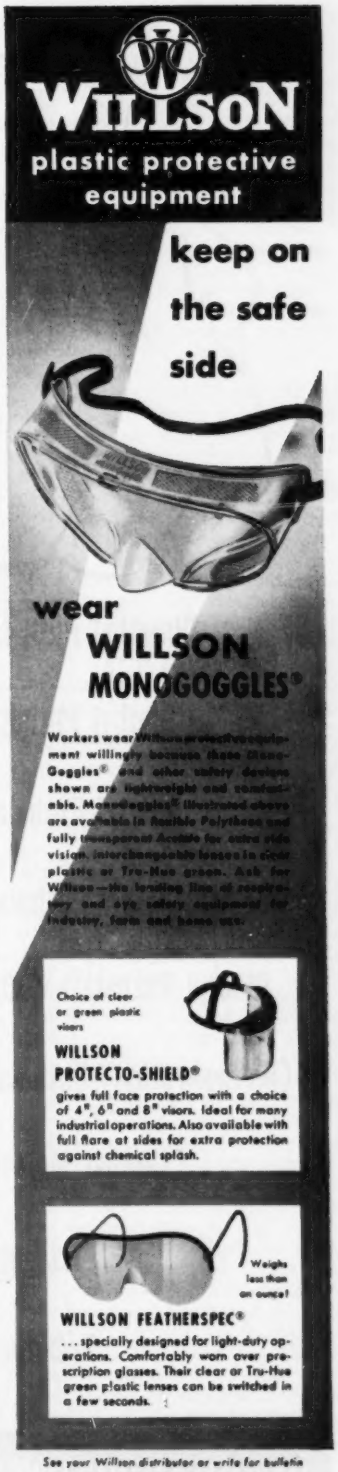
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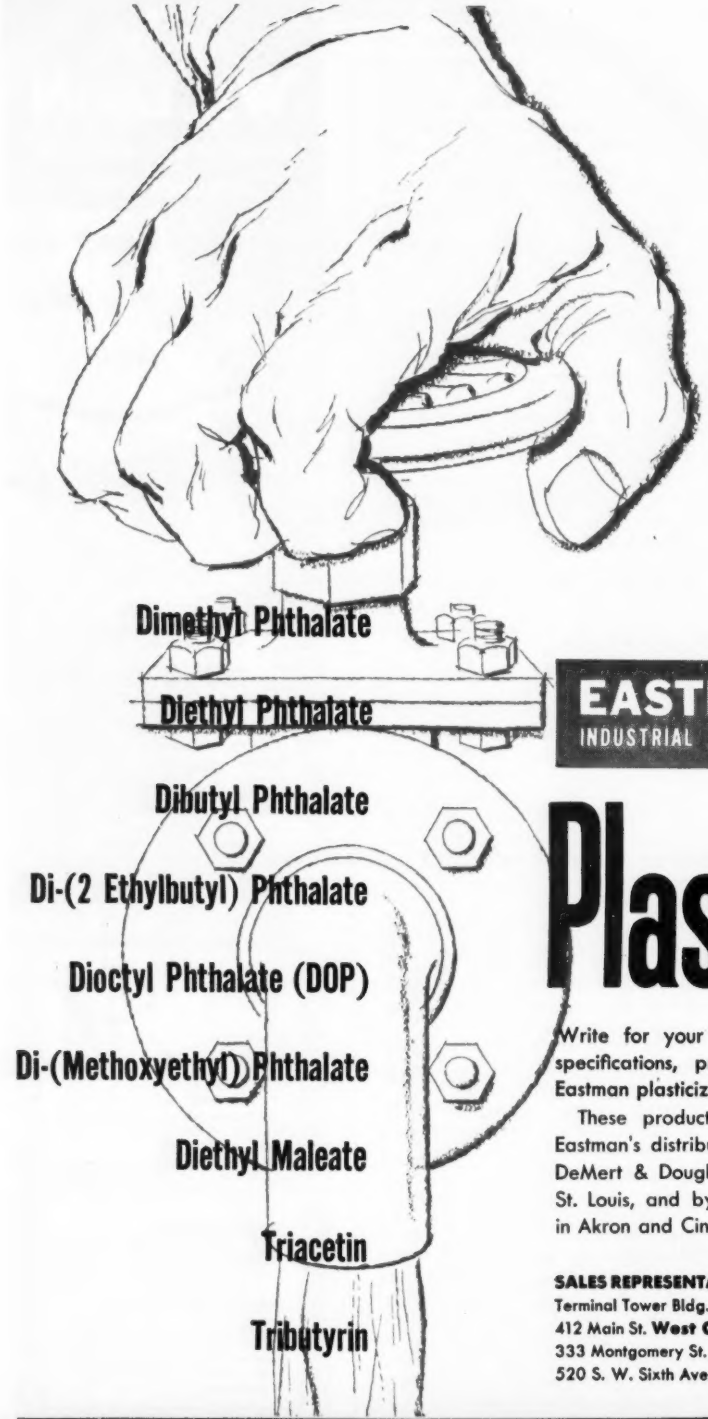

Dimethyl Phthalate

Diethyl Phthalate

Dibutyl Phthalate

Di-(2 Ethylbutyl) Phthalate

Dioctyl Phthalate (DOP)

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Diethyl Maleate

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TENNESSEE EASTMAN COMPANY, *Division of Eastman Kodak Company,* KINGSPORT, TENNESSEE

PAPER PACKED: Soaring sales for custom sacks.

March of Multiwalls

Multiwall paper shipping bags, once used for shipping only inert materials, are now setting the pace for chemical containers.

Complete returns on last year's use of multiwalls show that the chemical industry alone used one-fifth of all bags sold.

Multiwall bag makers were prime customers for liniment this week. Their arms were sore from patting themselves on the back after studying last year's complete figures. What they read: They had sold 2½ billion bags—ten times as many as in 1934. They could doff their hats to the chemical industry, too—which alone used more than twice as many bags (542 million) last year as were used *in toto* seventeen years ago.

Not that the bag makers could take all the credit. Their own sales development efforts were intense, to be sure, but in recent months they've been getting a boost from NPA's national emergency program for saving critical material.

Significantly, when paper shipping bags have proved satisfactory for handling a particular commodity, bag men say there is very little reversion to the original containers. The reason: economy.

That the chemical industry is jumping to utilize the advantages of multiwall paper bags is obvious. In 1934, 250 million multiwalls were used for packing less than 100 products. In 1951, 2.5 billion multiwalls were used for packaging about 400 different products, and an estimated 542 million of these went for chemicals. Both new packaging applications and current uses are showing a rapid growth.

Broad Uses: Today, multiwalls are used for packing a wide variety of chemicals. And this growing consumption is keeping the bag manufacturers busy trying to find new and special "liners" for holding the more corrosive and chemically sensitive materials. Multiwalls got their start in packaging chemical neighbors such as cement, limestone, clays, fertilizers and minerals together with feeds and related materials. Now, however, they are used to package metallic chlorides, nitrates, sulfates, stearates, and ever moisture-sensitive calcium chloride and phthalic anhydride. Also gums, plastics, insecticides, synthetic rubbers and rubber accelerators, pulverized glass, catalysts, etc.*

Many different paper types had to be developed to handle this diversified and imposing list of materials: High-finish sheets, high-density sheets, high wet-strength papers, clay coated papers and laminated glassine papers.

Custom Containers: As a matter of fact, practically all bags are "custom made" for each material. The prospective customer usually fills out a questionnaire which gives all the necessary physical and chemical properties of the product.

The bag maker then runs a sample of the material through his laboratory to check it against particular papers. A suitable paper is chosen, if available, for both inside and outside protection and the type of closure decided upon. Sample bags are then prepared and put through shipping tests, actual and simulated.

Inexpensive and Effective: Multiwalls sell in the range of 5-30¢ each for 100 lb. bags in lots of 1,000, with the price dropping as number bought rises. The cost, of course, depends on the type required.

Multiwall makers claim also that their containers are superior to fiber bags for keeping the contents clean. Many, they say, have turned to multiwall paper bags with this thought in mind and have stayed. But this is only part of the story because fabric bag makers have paper laminated fabric bags which also insure cleanliness and are claimed to be considerably stronger than the straight paper containers. However, paper laminated fabric bags cost slightly more. Nevertheless, some chemicals, like copper sulfate, seem to ship better in fiber bags.

Superior merchandising advantages are claimed for the smooth surface of paper sacks which will take printing, in a variety of colors, better than fiber bags. The smooth surface does give a better print, and this is of particular advantage when the product is shipped directly to the consumer as well as to the processor. Of value also is that paper shipping sacks are more easily adapted to time-labor saving automatic weighing, packing and closing machines than are fiber drums.

Not Perfect Yet: In spite of this rise in the use of multiwall paper sacks, competition is still heavy. There are many applications where steel or fiber drums are superior and their additional cost is justified. In particular they are much stronger.

Fabric and paper-laminated fabric bags have certain advantages over multiwall paper bags. Straight paper bags are not as strong and are more subject to snagging and tearing than are fabric. Also, paper bags do not enjoy the salvage value of fabric sacks. Multiwall are one-trip containers. And even though the initial cost of the various fabric bags may be greater, re-use (where purity is not a controlling factor) greatly lessens the original cost hurdle.

* Breakdown on multiwall paper bag uses: Chemicals now stand second to food and agricultural products, with building materials and minerals third and fourth.

Light, Elastic, Ready To Go

First large-scale commercial use, by Miles Kimball Co., Wis., has brought Bakelite's phenolic foam under the sharp eyes of packaging men. Bakelite's claims: One-tenth the weight of shredded newsprint, high resilience, thermal insulating properties, self-extinguishing, absorbs most organic liquids without appreciable swelling.

Produced in five-foot cubes (easily tossed around by one man) at rates up to 700 cubic feet per hour, the foam is claimed to reduce packaging time, lower worker fatigue, and save warehouse space generally used for storing packaging materials.

Make Your Own: Bakelite doesn't make the foam, but sells the phenolic resin. A company wanting to use phenolic foam installs the equipment and makes its own, which is where the saving in storage space comes in. This is fine for quantity shippers, but the small shipper is out in the cold. In due time Bakelite sees jobbers in the picture who will make and sell the foam in small quantities, possibly by using a "mobile factory"—drive up, make a block, sell it, and drive off.

Behind Bakelite's push of the foam is the increase in phenolic supply, with the concomitant need of a market or two. Cost facts: Foam will cost producer about 18-20¢ per cu. ft. at the most, compared to 9-15¢ for heavier-to-ship shredded newsprint.

Paper bag makers are working hard for improvement, though, in trying to iron out as many kinks as possible. Some suggestions for improving multiwall paper shipping sacks recently came from Richard W. Lahey, American Cyanamid's packaging expert. The industry, he said, is looking for bags which have greater moisture, puncture and snag resistance. Improved valve closures, and bags with reclosing features, are also needed, he said. Too, the already wide acceptance, of both paper and fiber bags would be increased if the accuracy of automatic weighers and packers could be improved.

At present, research on new paper types is being pushed. Now under development: Paper coatings such as Saran, neoprene, nylon, Pliofilm and cellophane. An attempt is also being made to work out new clay coatings for packing naval stores. Glass fiber reenforced bags are also getting the eye.

Two-way Road: Added dividend to the chemical industry is that paper shipping bag development is a two-way road. Paper chemicals, binders, coatings, threads, waxes, etc., produced by the chemical industry make their way into the finished multiwall. The bags then return to the chemical plants as shipping containers. A nice situation all around.

•

Honeywell Expands: A three-fold expansion in the field sales force has been accomplished since the end of World War II by Minneapolis-Honeywell Regulator Company. Latest batch of 26 men has been assigned to twenty of the company's nearly 100 branch offices in the U.S.

•

Metropolitan Office: Shamrock Chemicials of Stamford, Conn., has opened up a New York office in the city's chemical headquarters, 420 Lexington Ave.

•

Subcontractors Manual: The U. S. Chamber of Commerce has come to the aid of small businesses with a new 36-page pamphlet containing tips on how to obtain subcontracts. It is available (for 50¢) through the Chamber's office in Washington, D.C.

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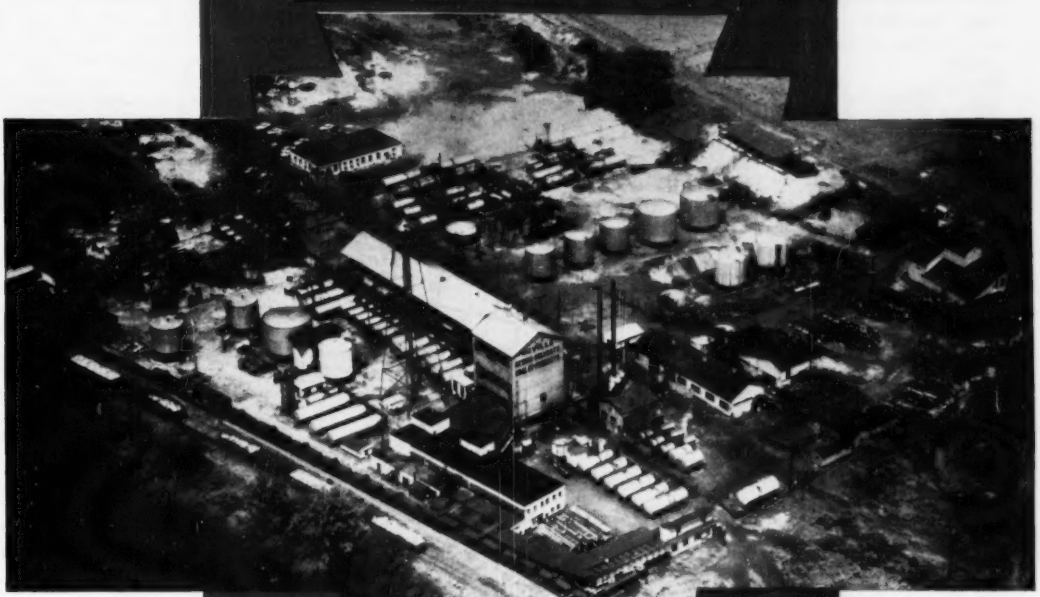

Partial view of plant at Neville Island, on the Ohio River, 8 miles west of Pittsburgh, Pa., showing main resin manufacturing and solvent refining units.

Neville service to industry is characterized by a traditional policy of continuous development and expansion, and co-operative technical assistance that means much to the buyer of chemicals.

You can be sure of quality on any Neville product you use—whether a resin, oil, solvent or specialty!

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Plants at Neville Island, Pa., and Anaheim, Cal.

4-40

Tried a monoglyceride that's **90% MONOESTER?**

Ordinary commercial monoglycerides generally contain less than 50% of monoesters, along with relatively inactive diglycerides, triglycerides, glycerine, fatty acids, and soap. But DPi's distillation methods concentrate the desirable monoester to as much as 90%.

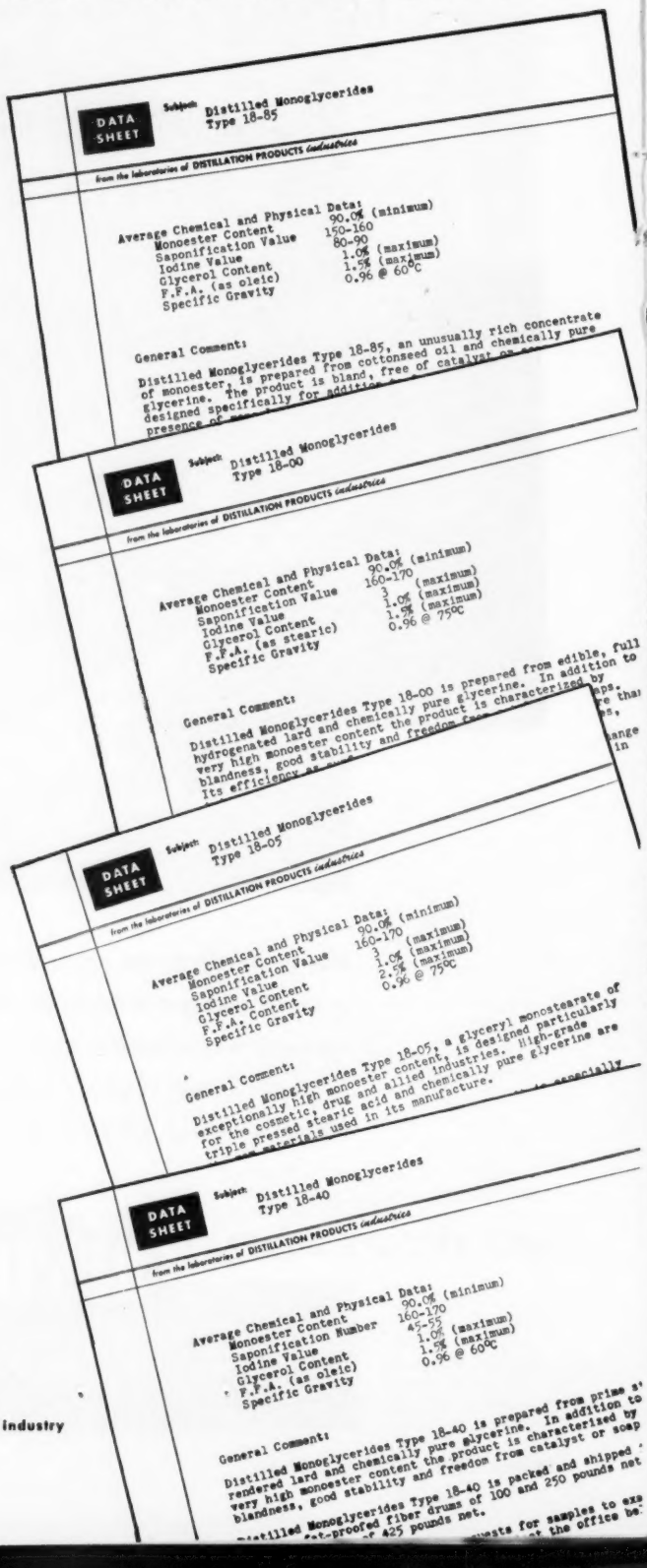
"Monos" act as bridges between oil (or other water-immiscible materials) and water, lowering interfacial tension in proportion to their true monoester content. Their properties as interface modifiers can be varied to match specific needs.

These facts make them useful as components in such products as cosmetic creams, lotions, ointments, lipsticks, lubricants, insecticidal sprays, natural and synthetic resins and waxes, and innumerable other chemical specialties.

NOW AVAILABLE are DPi 90% "monos" of cottonseed oil, lard, and stearic acid. We can also produce—in the quantities you desire—monoglycerides from soybean oil, from various greases and tallows, from castor oil, coconut oil, peanut oil, and from other fatty raw materials (perhaps from your own by-products).

Send for test samples or, better still, let's arrange to discuss your specific qualitative and quantitative needs for monoglycerides.

Write, wire, or phone ***Distillation Products Industries,*** 789 Ridge Road West, Rochester 3, N. Y. (Division of Eastman Kodak Company). Sales offices: New York and Chicago • W. M. Gillies & Co., Los Angeles and San Francisco • Charles Albert Smith Ltd., Montreal and Toronto.


DATA SHEET
Subject: Distilled Monoglycerides Type 18-85
from the laboratories of DISTILLATION PRODUCTS industries
Average Chemical and Physical Data:
Monoester Content 90.0% (minimum)
Saponification Value 150-160
Iodine Value 80-90
Glycerol Content 1.0% (maximum)
F.F.A. (as oleic) 1.5% (maximum)
Specific Gravity 0.96 @ 60°C
General Comment:
Distilled Monoglycerides Type 18-85, an unusually rich concentrate of monoester, is prepared from cottonseed oil and chemically pure glycerine. The product is bland, free of catalyst or soap
DATA SHEET
Subject: Distilled Monoglycerides Type 18-00
from the laboratories of DISTILLATION PRODUCTS industries
Average Chemical and Physical Data:
Monoester Content 90.0% (minimum)
Saponification Value 160-170
Iodine Value 3 (maximum)
Glycerol Content 1.0% (maximum)
F.F.A. (as stearic) 1.5% (maximum)
Specific Gravity 0.96 @ 75°C
General Comment:
Distilled Monoglycerides Type 18-00 is prepared from edible, full hydrogenated lard and chemically pure glycerine. In addition to very high monoester content the product is characterized by blandness, good stability and freedom from
DATA SHEET
Subject: Distilled Monoglycerides Type 18-05
from the laboratories of DISTILLATION PRODUCTS industries
Average Chemical and Physical Data:
Monoester Content 90.0% (minimum)
Saponification Value 160-170
Iodine Value 3 (maximum)
Glycerol Content 1.0% (maximum)
F.F.A. Content 2.5% (maximum)
Specific Gravity 0.96 @ 75°C
General Comment:
Distilled Monoglycerides Type 18-05, a glyceryl monostearate of exceptionally high monoester content, is designed particularly for the cosmetic, drug and allied industries. High-grade triple pressed stearic acid and chemically pure glycerine are
DATA SHEET
Subject: Distilled Monoglycerides Type 18-40
from the laboratories of DISTILLATION PRODUCTS industries
Average Chemical and Physical Data:
Monoester Content 90.0% (minimum)
Saponification Number 160-170
Iodine Value 45-55
Glycerol Content 1.0% (maximum)
F.F.A. (as oleic) 1.5% (maximum)
Specific Gravity 0.96 @ 60°C
General Comment:
Distilled Monoglycerides Type 18-40 is prepared from prime s rendered lard and chemically pure glycerine. In addition to very high monoester content the product is characterized by blandness, good stability and freedom from catalyst or soap
Distilled Monoglycerides Type 18-40 is packed and shipped fat-proofed fiber drums of 100 and 250 pounds net of 425 pounds net.

DPi

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BOOKS.....

Principles of Geochemistry, by Brian Mason. John Wiley & Sons, Inc., New York, N.Y; ix+276 pp., $5.

Written from the viewpoint of the geologist, this book represents an attempt to follow the evolution of the earth by means of interpreting geological data in terms of the principles of physics and chemistry. Stressing "interpretation rather than description," the author gives an account of processes on and within the earth.

Sampling Inspection by Variables, by Albert H. Bowker and Henry P. Goode. McGraw-Hill Book Co., New York, N.Y.; xi+216 pp., $5.

A summary of steps involved in setting up a sampling inspection plan where item quality is expressed on a variables basis, as opposed to plans operating on an attribute basis. Various chapters cover the plan's general principles, properties, construction, standard procedures utilized, and the mathematics involved.

MEETINGS...

Electrochemical Soc., Inc., spring meeting, Benjamin Franklin Hotel, Phila., May 4-8.

Div. of Gas & Fuel Chemistry, Amer. Chem. Soc., Pennsylvania State College, Pa., May 5-6.

Natl. Air Pollution Symposium, Huntington Hotel, Pasadena, Calif., May 5-6.

Greater Chicago Safety Council, annual Midwest safety show, Congress Hotel, Chicago, May 5-8.

Tech. Assn. of the Pulp & Paper Ind., Sherman Hotel, Chicago, May 5-8.

Scientific Apparatus Makers Assn., annual meeting, Edgewater Beach Hotel, Chicago, May 6-9.

Eng. Inst. of Canada, annual convention, Vancouver Hotel, May 7-9.

Natl. Lime Association, golden jubilee convention, The Homestead, Hot Spring, Va., May 8-10.

Soc. of Cosmetic Chemists, spring meeting, Biltmore Hotel, N.Y., May 15.

Inst. of Paper Chemistry, annual executives' conf., Appleton, Wis., May 15-16.

Amer. Soc. of Quality Control, Syracuse, N.Y., May 22-24.

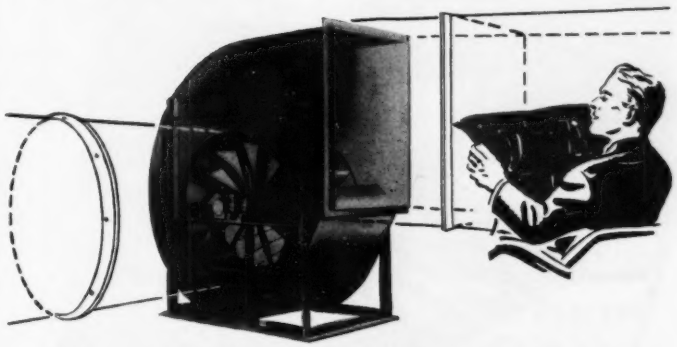
Chem. Inst. of Canada, annual conf. & exhibition, Mount Royal Hotel, Montreal, June 2-4.

Synth. Org. Chem. Mfrs. Assn. of the U.S., annual meeting, Greenbrier Hotel, White Sulphur Springs, W.Va., June 23-25.

Amer. Soc. for Testing Materials, annual meeting, Statler Hotel, N.Y., June 23-27.

"Buffalo" Tips on Getting the Best Service from your Fans

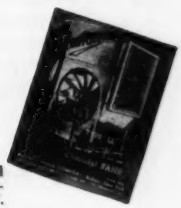
PICK THE FAN TO SUIT THE PLAN!



The CENTRIFUGAL FAN Is A Built-in 90° Elbow

Since air leaves the centrifugal fan in a direction vertical to that of the entering air, the logical location of the fan is where a 90° turn in the duct is planned. This takes advantage of the right-angle change in direction of the air and does not sacrifice efficiency, as in forcing air through an ordinary elbow. "Buffalo" Limit-Load centrifugal fans like the one shown above have features for additional efficiency and quiet, such as double backward curve blades, directional inlet vanes, specially shaped housing and dynamically balanced wheels. Medium speed fans, they are ideal for handling large volumes of air at medium pressures. They have the additional advantage of being non-overloading, regardless of system pressure.

The Axial Flow Fan, on the other hand, forms a straight duct section, and mounts compactly in straight piping. For complete information on "Buffalo" Axial Flow Fans, write for Bulletin 3533-C.



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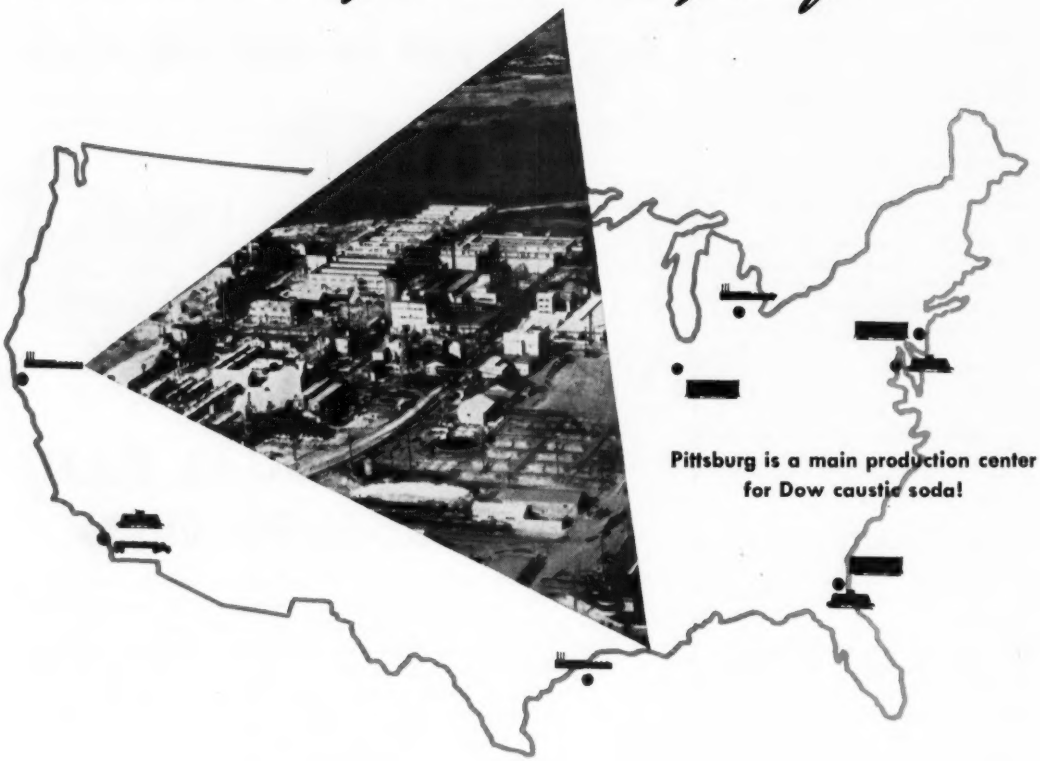

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CENTERLINE STRIPING: To keep the left from the right, 2½ million gallons.

Right Down the Middle

Close to 2½ million gallons of paints—$8 million's worth—are put down on the nation's highways as centerline stripes.

Nearly 85% of the states this year will be buying glass-beaded, "reflectorized" paints.

Problems in this lucrative field: Paints must dry in half an hour yet have high durability; have good night visibility.

Supplying the paint for the dividing stripes on the nation's highways is an $8 million business. Now readying roads for the summer's heavy traffic are state and city highway departments, spraying an estimated 2½ million gallons of paint in four-inch lines.

Fastest growing idea in the traffic paint field is the glass-beaded—"reflectorized"—method of improving night visibility. Close to 6 million pounds of glass will be deliberately poured on the roads this year for this.

Double Duty: Improving night visibility and increasing service life of the lines are two of the main aims of highway departments and paint formulators—and that's where glass beading shines. Reflectorized marks (*see cut*) show up far better than unbeaded marks at night, and a bonus point is that the hard glass spheres improve the wear characteristics of the paints.

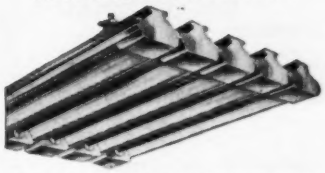
Both white and yellow lines are beaded. Nearly twice the quantity of basic white paint is used compared to yellow, which is applied for caution lines, and as a snow-contrasting line in the winter.

Adding glass beads to paint was tried back in the '30's. Paints can be supplied with the spheres mixed in (Prismo Premix, and more recently, Minnesota Mining & Mfg.'s Centrolite) or they can be dropped in just after the paint has been applied. Premix takes a smaller ball (MMM uses 3-10 mil bead) than the added-later types (3-30 mil spheres).

The drop-in method is somewhat cheaper than painting with premixed material. Generally, about 4-6 lbs. of beads are used with a gallon of binder, although on airports about 12 lbs. are sprinkled in. Costs vary widely from state to state—$25-80 per mile (as compared to $13-63 for non-beaded).

Even with the increased expense, reflectorized paint's superior characteristics have been winning increasing favor. Several Eastern states use nothing but the beaded paint (Massachusetts, 120,000 gal./year) as do N. Dakota and Montana. New York is itself working out a formulation for reflectorized material; Texas has about 1% of its highways marked with beaded stripes, and California 65%, according to the National Safety Council.

GET ALL 3 with ALL-METAL CHROMALOX RADIANT HEATERS



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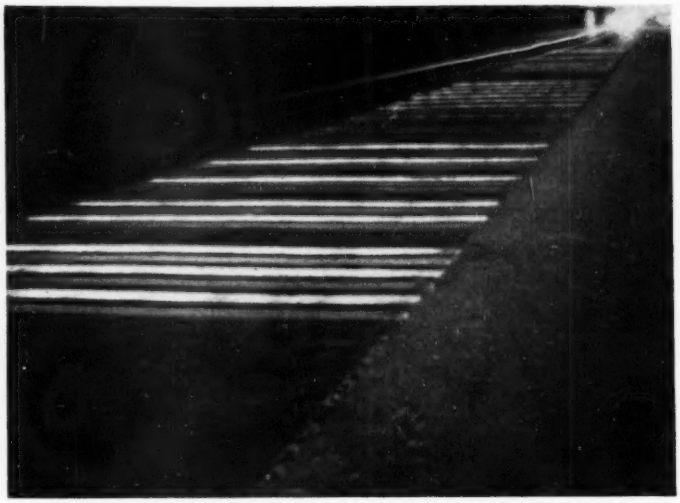

REFLECTORIZED PAINT TEST: Brighter by night, but duller by day.

Prismo, MMM, and Flex-Lite (St. Louis) are the principal suppliers of beads and beaded paint. There are about 150 traffic paint manufacturers.

Traffic Can't Wait: A quick-drying paint is needed to permit speedy reuse of highways; most paints dry in 15-30 minutes. Long-wearing paints are desirable mainly because of the labor expense in application. The ponderous equipment puts on about 4-6 miles of line per hour (although Ohio has a machine that bats along at 15 mph) and most states don't like to spend more than two months per year marking their highways.

Traffic paint vehicles, which may or may not be beaded, are usually of four types: lacquers (a spirit solution of natural resins), oleo resins (linseed or soya oils), alkyds, and butadiene-styrene formulations.

Lacquers dry quickly, but at least one state (Delaware) found that they tend to crack when dry, releasing most of the beading. California claims to have good luck with the beaded lacquers, however.

To provide fast-drying properties, the paints are loaded with driers, and are heavy with pigment. White paint pigments are titanium dioxides, zinc oxides, and lithopone; yellow paints contain chrome yellow, with zinc oxide often added as brightener.

Paints which aren't beaded are often filled with mica, or some compound to give a rough surface. (A smooth finish is harder to see at night.)

On the Road: The road construction type affects paints too; but there is no longer much difference in formulation for asphalt or concrete. Oils in the bitumen-type street surfaces tend to make paints run or bleed, and uncured concrete exudes an acid that cuts paint durability.

Many concrete pavements are marked with black tar paint on the tar-filled construction joint. But when the roads are resurfaced, white paints are generally used. At that, Illinois is buying 150,000 gallons of tar paint this year.

Paint Saver: Dash line painting—most common is a 15-foot line followed by a 20-25-foot space—is one trend aimed at conserving paint. And most states use a four-inch mark, although some still stick to a five- or six-incher. The narrow line means quite a saving; where a six-inch line takes 26 gallons of paint per mile, a four-incher requires 17.

With colors limited to white, yellow and black, and with the demand for an unwavering straight line, painters aren't allowed much latitude for artistic expression. But there's a bit of red and silver paint used on curbing and in parking lots, and once a year, on St. Patrick's Day, New York City's Fifth Avenue receives a pretty green stripe.

Deal on Dieldrin

Probable fate of Julius Hyman & Co., Colorado agricultural chemical firm (CW, April 5), was clarified late last week: Shell Chemical Co. revealed it has an option to take over the Hyman plant, has been negotiating with Velsicol since March 17 for exclusive rights to aldrin, dieldrin manufacture and marketing.

The proposed move explains several recent events concerning Hyman:

• District Court Judge Robert W. Steele's amending the ruling of March 17—which gave the aldrin-dieldrin patents to Velsicol—to permit Hyman to make the two chemicals until May.

• Shell's reported confidence it would continue marketing aldrin and dieldrin. (It started negotiations for the rights from Velsicol on the same day the decision was handed down.)

• Hyman's decision not to appeal to a higher court, and its speedy rebuilding of the burned-out boiler plant. (Destroyed February 28, the unit was readied for use two weeks after the March 17 court findings.)

With the changed court ruling, the 800 employees at Hyman's Rocky Mountain Arsenal plant (near Denver) can stay on the job until May. And by then, it is a good bet that the Shell-Velsicol-Hyman negotiations will be completed.

Shell told Denverites (the news was not broadcast countrywide) that if it should take over Hyman, it would continue making aldrin and dieldrin without interruption. No personnel changes were contemplated, Shell said, no name change planned, and research on insecticide development would be continued.

Shell already makes several other agriculture chemicals, but has held only marketing rights to aldrin and dieldrin. Stocks of the two chemicals, Shell says, are enough to meet the 1952 crop needs.

Further Word

More about Ferro Corp.'s "porcelain fertilizer," mentioned in the April 26 Chemical Week Newsletter.

The new product, a fused, glass-like "frit," adds micronutrient quantities of boron, iron, zinc, copper, manganese, iodine, and molybdenum to the soil. Ferro (Cleveland) makes no claim that its product replaces the major constituents of ordinary fertilizers—nitrogen, phosphorus, potash. It is currently selling its glass fertilizer only to fertilizer firms for mixing into their soil builders, although packets for the home gardener are planned.

New Slant: Adding the trace elements slowly, as the frit dissolves, is Ferro's new angle; placed on the market several years ago was a fertilizer with almost the same elements in soluble granular form.

But adding soluble salts directly to the soil or in foliage sprays had several disadvantages: Part of the soluble salts combined with chemicals in soil and were thus made unavailable, and sometimes a discouraging fraction was dissipated in the subsoil.

Ferro think it's got those two drawbacks licked. Carbonic acid in the soil breaks the hard frit down, releasing needed elements in contact with the plant roots, where they can be utilized readily without much waste. And, as a result of carefully controlled frit manufacture, the elements go into solution at the rate best for plant growth.

Keeping the ratio of the elements in balance is one of Ferro's chief problems. But Ferro, with plenty of experience in frit making (it is among the leading porcelain enamel frit makers) has worked out a suitable manufacturing method: The combination of micronutrients is thoroughly mixed, then melted and held for a predetermined time at high temperature. The mix next is run into cold water, where it shatters to the frit. The frit is dried, and ground to size for addition to fertilizers or the soil.

Ferro has been testing its new products for five years, with the aid of state agricultural experimental stations. Results with both flowers and vegetables have been good—in some cases yields have been upped 40%.

One aspect still being researched: Relationship between disease resistance and trace elements in crops. Right now, test results have been encouraging.

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Flexible and Tough: Leak Lock, a new protective coating, has been introduced by Highside Chemicals Co. (Clifton, N. J.). New coating dries in air to a flexible finish, said to be resistant to a wide variety of chemicals.

•

Acrylic Antistatic: Anstac 2-M, a new antistatic and cleaning agent, has been produced by Chemical Development Corp. (Danvers, Mass.) for use with Plexiglas, Lucite, and similar acrylic plastics.

•

Bodygard Countrywide: Simoniz is now selling its silicone based auto polish, Bodygard, (*CW, June 23*) nationally.

•

Floor under Polystyrene: Magicolor Co.'s (division Enterprise Paint, Chicago) floor polish, Lastic Gloss, is said to contain a polystyrene which polymerizes on the floor, gives glossy but nonskid properties. It's just been introduced nationally, priced at $3.95 per gallon.

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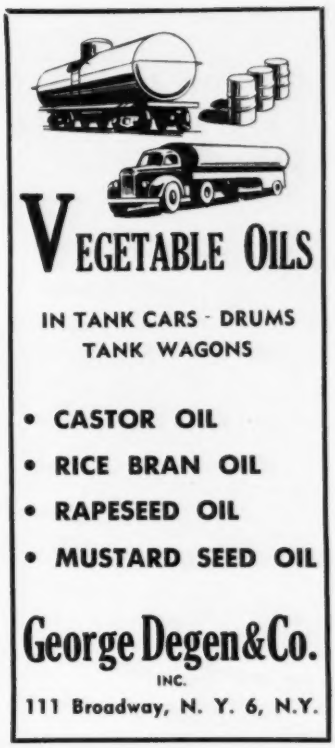
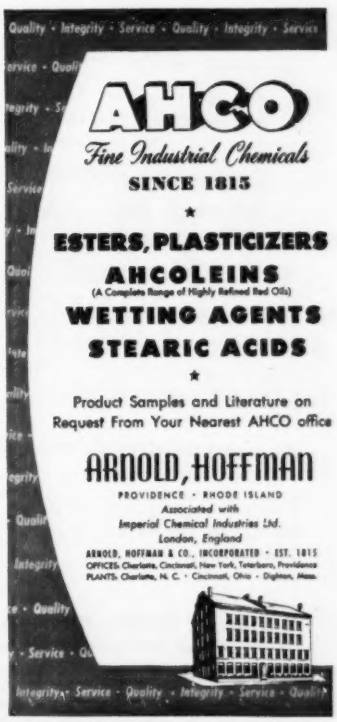
Paint Blend: D L Paint & Wallpaper Co., Dallas, Tex., has recently merged with the Hanna Paint Mfg. Co., Columbus, Ohio. D L and its subsidiary, Texline Paint Mfg. Co. will make Hanna paints, continue manufacture

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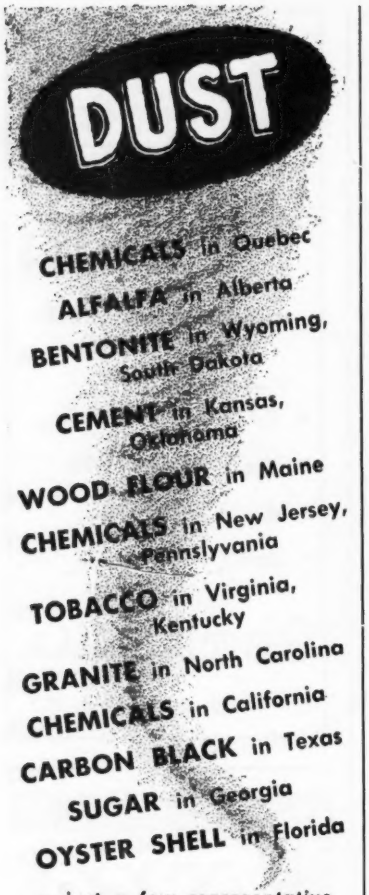

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SPECIALTIES

of its present line of D L products, and market both in the Southwest.

•

Depot Down South: Parke Davis & Co. has opened a new, 15,000 sq. ft. pharmaceutical depot in Miami, Fla.

•

Plant Builder Building: Cooperative Fertilizer Service (Richmond, Va.) is planning a new 40,000 ton/year fertilizer plant in Louisville, Ky.

•

D & A Latices: Acton, Mass. plant of Dewey and Almy Chemical Co. has gone into production of high styrene copolymer latices, and is developing a paint latex said to offer superior water and scrub resistance.

•

Keep It Clean: Pensuds, Pennsylvania Salt Mfg. Co.'s latest synthetic detergent, has been devised for wet cleaning operations in the drycleaning industry. Made in Wyandotte, Mich. plant, it is offered nationally and internationally in 50 and 100 lb. drums.

•

Come to the Fair: Monsanto's British branch will feature two new textile chemicals at the coming British Industries Fair. Syton 2X is primarily for cotton, rayon, and nylon spinning —is said to increase strength and better spinning characteristics. Stymer S is a new size for a variety of synthetic warps.

•

More Paint: Klimate-Pruf Paint Co., Greensboro, N. C., plans $50,000 expansion of facilities; 5,000 sq. ft. more space plus new equipment.

•

The Green Again: New source of chlorophyll is oat hay. American Chlorophyll, Inc. (Lake Worth, Fla.) has found high chlorophyll content in oats grown primarily for feed.

Stockholders of American Chlorophyll voted last Friday to accept the offer of Strong Cobb and Company, Inc., Cleveland—the merger of the two firms will be effective by May 1.

Archer-Daniels-Midland Co., Minneapolis, Minn., has entered the chlorophyll and xanthophyll industry with the purchase of the Keystone Chemurgic Corp., Bethlehem, Pa., and arrangements to buy Chlorophyll, Inc., Neodesha, Kan. ADM's chlorophyll division will be headed by Donald G. Carpenter.

PICTURES IN THIS ISSUE:

Cover (top), p. 33 (bottom r.), p. 34—Lyn Crawford, McGraw-Hill; p. 15—Wide World; p. 25—Fay Foto; p. 28—U. S. Plywood; p. 33 (bottom l.)—George Baker; p. 39—Robert Yarnall Richie; p. 40—Bakelite Co.; p. 53—United Press.

Discovery that chlorophyll has been the green coloring agent in its facial soap has prompted advertising men of Colgate, Palmolive Peet Co. to launch a big green campaign for Palmolive soap in the Midwest.

•

Disinfectant Soaps: West Disinfecting Co., (Long Island City, N. Y.) has introduced a new line of hexachlorophene-containing creams. The products are dispensed in a newly designed polystyrene unit.

•

Synthetics in the Shop: Union Carbide and Carbon Corp. has developed a new synthetic cutting fluid. Water-soluble, the compound, Ucon Cutting Fluid H-660, can be used in most machining operations.

•

Resins for Cement: Vinyl copolymer synthetic resins for portland cement, Polyco 470, have been introduced by American Polymer Corp. (Peabody, Mass.)

•

Copolymer Coating: Polyco 408, a polyvinyl acetate copolymer solution for use as a paper coating, in adhesives, inks, etc., and said to offer non-blocking characteristics, is being sold by American Polymer Corp. (Peabody, Mass.).

•

Shrink Stopper: American Viscose Corp. has just licensed its Avisco process for shrink-controlling rayons, to Fontaine Converting Works (Martinsville, Va.) and Lesem Bach & Co. (New York).

•

Quick on the Dry: Chem-Dry, a process utilizing sulfur dichloride vapor to quick-dry ink, paints, and varnishes, has been developed by Meyercord Co. (Chicago), and will be licensed by H. L. Barnebey, (Pittsburgh, Pa.).

•

Safety Sanitizer: A new compound, MSA Cleaner-Sanitizer, has been developed by Mine Safety Appliances Co., (Pittsburgh), for cleansing safety equipment. The new powder comes in 1-oz. packets, 25 per carton

•

Hard Water Cleaner: Liquid Gold, a cleaner, sealer, and preservative for floors designed for hard water areas as well as soft has just been introduced by James Varley & Sons, Inc., (St. Louis, Mo.).

•

Industrial Detergent: Baird & McGuire, Inc., (Holbrook, Mass.) is selling a new industrial and institutional cleaner tabbed S-D Cleaner. It contains Sindar Corp.'s germicide, G-4, plus a blend of three detergents.

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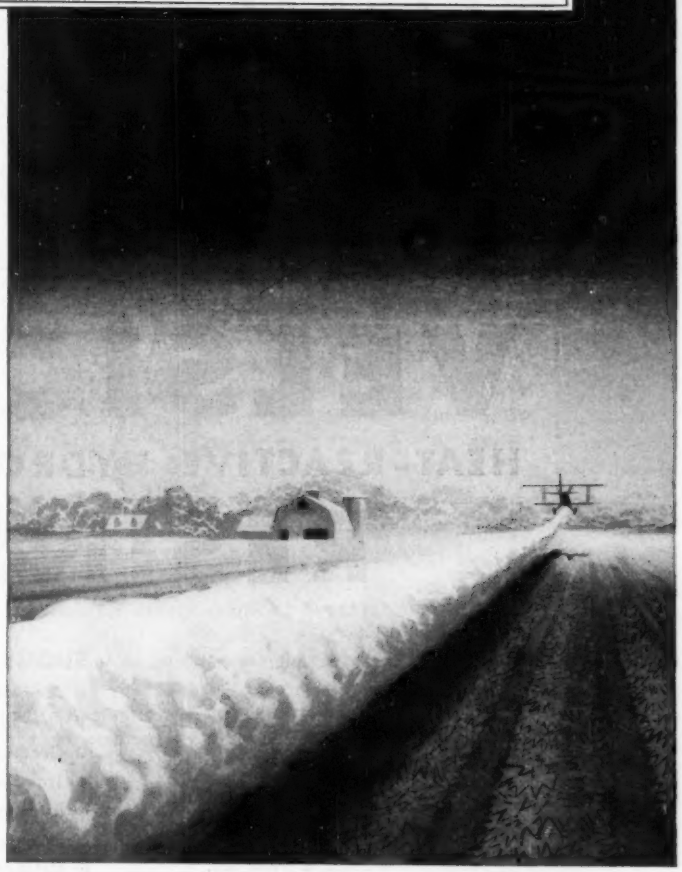

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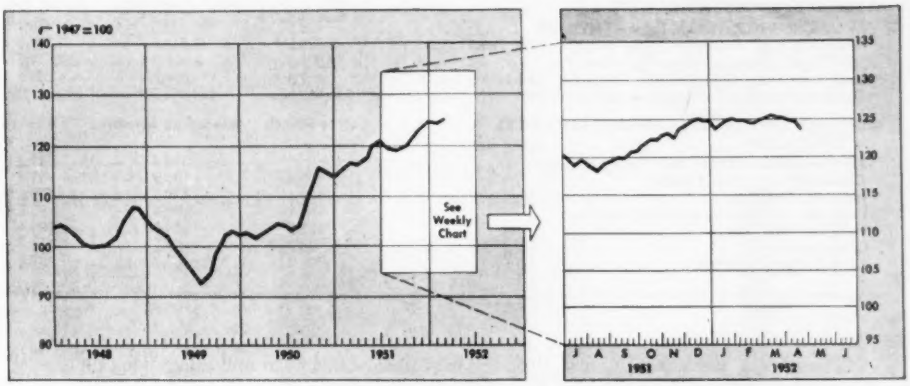

CW Index of Chemical Output—Basis: Total Man Hours Worked in Selected Chemical Industries

MARKET LETTER

The Government is still inching toward decontrol this week. But it will take a mighty big inch to keep pace with a market radically changed from that of early defense-tightened days.

Office of Price Stabilization's "suspension" of some commodity controls (page 53) is more or less an experimental effort at decontrol.

Concensus of producers and resellers trying to move chemicals in a soft market is that the experiment should be widened fast. Most would like to see price controls dropped when the Defense Production Act is extended, but that is too much to hope for even from a control-sated Congress.

There's some comfort in Washington's finding it can't always encourage a flood of products, then build a dike against its handiwork.

OIT took cognizance of the plentiful supply of insecticidal materials caused by high domestic output, poor domestic demand; established a supplementary second-quarter export quota of 5 million lbs. for DDT.

This doubles the original quota, all of which has been licensed. And there are licenses pending against the supplementary quota, but OIT is still accepting additional applications.

BHC producers too found the export path eased. BHC and all formulations—except those containing over 20% sulfur—can now be shipped without license to all points but Hong Kong, Macao and Iron Curtain areas.

Allocation of hydrofluoric acid—under consideration since last December—has definitely been shelved. NPA has just surveyed the supply situation, found that fluorspar isn't as short as it thought, decided that action on hydrofluoric is unnecessary.

And Defense Materials Procurement Agency will maintain a "hands off" policy on quicksilver, won't offer financial encouragement for domestic expansion. Reason: Supply for 1952 is estimated at 60,500 flasks, current consumption at 60,000 flasks a year.

Two new Washington rulings affect containers: (1) Restrictions on sale, delivery and use of aluminum closures and liners were lifted; so were special limitations on inventories of aluminum and tin closures. (2) Glass container makers were granted a 4% boost in ceiling price.

MARKET LETTER

WEEKLY BUSINESS INDICATORS	Latest Week	Preceding Week	Year Ago
CHEMICAL WEEK Output Index (1947=100)	123.5	123.5	120.7
Bituminous Coal Production (Daily Average, 1000 Tons)	1,529.0	1,342.0	1,771.0
Steel Ingot Production (Thousand Tons)	2,090.0	2,087.0 R	2,079.0
Stock Price Index of 14 Chemical Companies (Standard & Poor's Corp.)	227.4	227.9	233.3
Chemical Process Industries Construction Awards (Eng. News-Record)	$36,469,000	$14,616,000	$19,302,000

MONTHLY INDICATORS—WHOLESALE PRICES (1926=100)	Latest Month	Preceding Month	Year Ago
All Commodities (Other than Farm and Foods)		114.3	117.3
Chemicals and Allied Products	105.4	105.9	111.8
Industrial Chemicals	117.1	117.5	120.6
Drugs and Pharmaceuticals, and Cosmetics	93.1	93.4	95.8
Fertilizer Materials	109.6	109.6	105.4
Oils and Fats	46.7	51.2	114.8
Paint & Paint Materials	108.0	108.7	109.6

Look for Defense Production Administration to end allocations on zinc. This will amount to decontrol though DPA will keep provisions for reimposing controls if supply worsens.

But there is little likelihood of that. A leading producer (Charles R. Ince, St. Joseph Lead vice-president) sees not only enough to meet domestic needs but a surplus of 129,000 tons this year.

Recent easing in supply can be traced to curtailment of auto, consumer durables production.

Further expansion in domestic potash production doesn't look like a good bet. Reason: foreign competition.

U.S. companies can't compete with low-priced imports because of the difference in labor costs. Imports—now running at a 300,000-ton-a-year rate—are sure to increase as foreign countries expand their own facilities.

Growing competition from Europe is bothering Canadians, too.

Canadian Pittsburgh Industries Ltd. is considering closing its Montreal plant because it can't operate against Polish and Czechoslovakian competition.

Glass from these two countries is coming in at prices 20-25% below those possible for Canadian producers.

The other side of the foreign coin is U.S. farmers' concern over sodium nitrate imports, hard hit by the prolonged strike in the Chilean saltpeter fields.

But the situation is being alleviated by imports of large quantities of calcium ammonium nitrate from Austria, Western Germany and Holland.

There seems to be nothing but cloudy days ahead for the gum naval stores industry. That is the opinion of industry and Government officials.

Export markets are dwindling; no satisfactory way of establishing a "market" for the industry to base prices on has been found since the abolition of the Savannah Naval Stores Exchange on Anti-Trust grounds; and competition from other products— e.g., tall oil, sulfate rosin—is growing.

The one bright hope is research to open new markets.

SELECTED CHEMICAL MARKET PRICE CHANGES—Week Ending April 28, 1952

DOWN

	Change	New Price		Change	New Price
Antimony Oxide (c.l.), lb.	$.05	$.39½	Shellac, bleached, bone dry, lb.	$.01	$.50
Ouricury Wax, ref., bags, lb.	.02	.80			

All prices per pound unless quantity is stated

Action on Prices

OPS formally unveils product standard to allow price adjustments on non-profit items, gives superphosphate makers 5% increase.

"Suspension" of controls in soft markets also goes into effect. Fats and oils are first chemical commodities to be paper work-free. But OPS will reimpose controls if the market tightens.

The first step in decontrolling prices of commodities in plentiful supply (*CW Market Letter, Apr. 26*) was finally taken this week: Effective Monday, Price Stabilizer Ellis Arnall suspended price ceilings on crude cottonseed oil, crude soybean oil, crude corn oil, tallow, lard, vegetable oil soapstock, and animal waste materials.

This action followed a busy week in which OPS (1) formally unveiled its new price increase standard, known as the "product standard" (already used to allow paint makers to pass-through increases in costs of lead and zinc); (2) granted the superphosphate industry a 5% ceiling price increase under it; and (3) outlined to the Senate Banking Committee its "soft market policy" under which fats and oils were decontrolled.

Suspending price controls on commodities selling well below established ceilings—as fats and oils have been—had been under consideration for weeks, and Congress has been threatening to write mandatory decontrol measures into an extension of the Defense Production Act. Apparently OPS hopes to prevent such a move by steel dispute-angry lawmakers.

OPS'S ARNALL: For softer markets, a lighter rein.

Covering Costs: The product standard is applicable to a manufacturing industry which, though it is making money on overall operations, is in the red on a particular product or line of products. Under it, OPS will allow an increase in ceiling price to cover production and distribution costs.

The paint industry had already been granted relief on this basis prior to the official establishment of the new order. Since lead and zinc were boosted in price, paint makers had been losing money on products containing large amounts of these metals. So OPS allowed a pass-through of this increase in metal costs—up to 2 cents a pound—to bring the industry to a break-even point on such products.

Superphosphate producers, slated to get similar treatment, were not disappointed. OPS set dollars-and-cents ceilings for bulk sales of normal grade, up to 22% available phosphoric acid (APA), and triple grade, over 40% APA content. These new prices represent a 5% increase over the levels at which prices were frozen by General Ceiling Price Regulation, permit producers to cover total costs of producing and distributing the fertilizer material. A third grade, containing 22-40% APA, was not included in the new ruling since it is produced by only a few companies who have not submitted data on which OPS can act.

OPS chose the product standard as a more practical means of granting price relief than an industry standard, based on overall industry earnings, because superphosphate is made by multiple-line manufacturers. Although the general effect was a 5% increase, the setting of uniform ceilings resulted in rollbacks by a few "out-of-line" producers, and no change by some others.

Actually price officials do not think the product standard will be widely used, expect the broader industry standard of price adjustment will take care of most rises permitted under the regulations. But the new standard will probably soon be applied to tungstated pigments. Price of sodium tungstate has gone from $2.25 to $3.15 a pound over the past year; the product standard was designed to meet this sort of cost increase.

No Push-Button Affair: In reporting

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(Continued on pages 54-55)

to the Banking Committee, Arnall warned against adopting a "push-button" decontrol formula. He said that before OPS can relax controls, prices must be substantially below the ceiling, with no prospect of soon rising to the ceiling. Also, when OPS decides to suspend controls on a commodity, it must (1) provide a price-watching system; (2) set price levels at which controls will be automatically reimposed.

Fats and oils, of course, are basic commodities on which price quotations are readily available. But when other products are added to the "suspended" list, OPS may have to set up a price checking system.

Actually, since these commodities have been well below the ceiling set by OPS, the action will have no effect on market prices. But it will lessen the records-keeping and reporting work of producers, and that is no small matter to form-frenzied companies.

Double Action: In suspending fats and oils controls, however, OPS also rolled back ceilings on crude soybean, cottonseed and corn oil. Thus if price controls are reimposed, the new ceilings will be lower than the ones that have been in effect. However, as OPS pointed out, the new ceilings are still 60-75% above current market prices for the oils.

Arnall also set the levels at which he will rescind the suspension, whole or in part: If the crude soy, cottonseed, and corn oil and lard come within 2½¢ of their ceilings, and tallow within 1½¢ of its set limit, controls will be slapped back on.

But Arnal doesn't see OPS bound unalterably to a previously determined price at which controls go into effect again. He looks on it as a "reasoned, objective determination." However, he doesn't think a single uniform level for reimposition can be set, says it will depend upon price volatility, efficiency of the price-watching system, and how prices in certain areas move up together or separately, and "other factors."

Government Needs

Bid Closing	Invitation No.	Quantity	Item
Armed Services Medical Procurement Agency, 84 Sands St., Brooklyn, N.Y.			
May 5	1457B	25585	Drugs & chemicals
May 6	1481B	10752	Drugs & chemicals
	1487B	163104	Drugs & chemicals
	1489B	12380 btl	Drugs & chemicals
	1492B	41176 box	Drugs & chemicals
General Services Administration Business Service Center, Region 6, 1800 Federal Office Bldg., Kansas City, Mo.			
May 22	30-KC-21258	indefinite term contract period 8/1/52 thru 5/31/53	Solvents, states of Iowa, Kansas, Minnesota, Missouri, Nebr., North Dakota and South Dakota
Commanding General, New York Quartermaster Procurement Agency, 111 East 16th St., New York, N. Y.			
May 6	52-1546B	4000000 brs	Soap ordinary issue approx 16-oz. bar spec P-S-591A
	78630 bx.		Barrier material greaseproof moldable self-adhering
May 20	52-1566B	142000 lbs	Soap, powder hand scouring mechanic spec P-D-221A
Navy Purchasing Office, 111 East 16th Street, New York, N.Y.			
May 12	614B	1164000 ea	Insecticide aerosol 12 oz disp
Commanding Officer, New York Chemical Procurement District, 180 Varick St., New York 14, N.Y.			
May 5	CMLMC-NY-PR 1	145-074 lb	Potassium chlorate grade 11 class E granulation 98% through number 50 sieve 85% through 100 sieve maximum 70% minimum 40% through 200 sieve specification Jan-P-150 with amendment 2 dated 30 Sept 1949 authorized change 3040 dated 27 Feb. 52
Commandant of the Marine Corps, Washington, D.C., Attn.: Supply Dept. Procurement Section.			
May 16	1029B	19020 gal	Wax floor water emulsion non-buffing in 5 gallon cans federal spec P-W-151A
General Services Administration, Business Service Center, 575 U.S. Courthouse, Chicago 4, Ill.			
May 7	WCH-51833	3034 gal	Enamel interior and outside various Fed. Specs.
		1976 gal	Paint, for concrete floors, interior and traffic, various Fed. specs.
		1265 gal	Turpentine, steam-distilled wood
General Services Administration, 1114 Commerce St., Dallas, Tex.			
May 8	FW-21836	16000 lb	Trisodium phosphate, O-T-671A
General Services Administration, 620 Post Office & Courthouse, Boston 9, Mass.			
May 12	(BO-W-1-147-52)	600 gal	Paint, red, lead, base, ready-mixed, type 1, red lead, linseed oil paint, in one gallon containers.
Business Service Center, General Services Administration, Region 3, Washington 25, D.C.			
May 7	2M0508-2R	approx. 90 lb	Pyrethrum, extract
May 9	2M11601-R	900 cartn	Soap borax, powder, for dispensers, in 5-lb. carton
		30600 lb.	Soap toilet, white floating approx 6-oz. cake approx 4" x 2½" x 1"

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Autoclaves, stainless steel type 347, 100 gals, jktd & agitd. Chemical & Process Machinery Corp., 146 Grand St., New York 13, N.Y.

Calenders, New Rubber Calenders, 6x12", Johnson Joints, 7½ HP motor, Complete. Eagle Industries, 108 Washington St., NYC.

Centrifugal, 36"x40", Bird, Continuous, Consolidated Products, 18 Park Row, N.Y. 38, N.Y.

Centrifugals, Bird Rubber Covered. First Machinery Corp., 157 Hudson St., N.Y. 13, N.Y.

Centrifuge; Sharples Super 5/S. First Machinery Corp., 157 Hudson St., N. Y. 13.

Condensers, Coil, St. St., 40 sq. ft. Perry Equip., 1415 N. 6th St., Phila. 22, Pa.

Disintegrator, Rietz 18 S/S; 30 H.P. First Machinery Corp., 157 Hudson St., N. Y. 13.

Dryer; Double Drum; 28" x 5'. First Machinery Corp., 157 Hudson St., N. Y. 13.

Dryer, Roto-Louvre 11'6"x35'. Heat & Power Co., Inc., 70 Pine St., N.Y. 5.

Dryer, Vacuum Shelf, 44"x44" shelves, MD pumps, complete. Eagle Industries, 108 Washington St., NYC.

Dryers, 2 Bfrk 32x90 dble. drum, SS accessories, complete. Eagle Industries, 108 Washington St., NYC.

Dryers, Stainless Drum 5'x10'. First Machinery Corp., 157 Hudson St., N.Y. 13, N.Y.

Filter Alsop, SD-12-WR-30,T316, ST. ST. Perry Equipment Co., 1415 N. 6th St., Phila. 22, Pa.

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Filter Presses, all sizes and types. Process Industries, 305 Powell St., Brooklyn 12, N.Y.

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Kettle, Reaction, 12 gal. inconel, jktd. & Agit. Perry Equip., 1415 N. 6th St., Phila. 22.

Kettles, Dopp C.I. 200 to 650 gal. First Machinery Corp., 157 Hudson St., N.Y. 13.

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Mill, New Rubber Mills, 6x12, 6x14, 6x16"; Johnson Joints, Complete. Eagle Industries, 108 Washington St., NYC.

Mill, Pebble, 32"x36", Porc. lined. Perry Equipment Co., 1415 N. 6th St., Phila. 22, Pa.

Mixer, Lab, BP Vacuum, 7½ gal, jktd, MD. Complete. Eagle Industries, 108 Wash. St., NYC.

Mixer, 110 gal. stainless Patterson Vacuum, Consolidated Prods., 18 Park Row, N.Y. 38.

Mixer, 200 gallon B.P. Jacketed, m.d., Consolidated Products, 18 Park Row, N.Y. 38.

Mixers-2-7500 lb. dry powder, double ribbon type. Chemical & Process Machinery Corp., 146 Grand Street, New York 13, N.Y.

Pebble Mills; 8'x8', Porcelain lined. First Machinery Corp., 157 Hudson St., N.Y. 13, N.Y.

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Pumps, Stokes High Vacuum, 212C, Water cooled, 100 CFM, unused, guaranteed, limited quantity, reasonable prices. American Sales Co., 67 E. 8th St., NYC. GR 3-1465.

Tablet Press, Stokes R, single punch, Consolidated Products, 18 Park Row, N.Y. 38.

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Tank, S/S, 3,000 gal. for truck. Perry Equipment, 1415 N. 6th St., Phila. 22, Pa.

Tank, 5700 gal., S/S Horiz., New, Perry Equip., 1415 N. 6th St., Phila. 22, Pa.

Tanks, SS, from 180-10000 gal, jktd, storage, agtd. Eagle Industries, 108 Washington St., NYC.

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BOOKLETS . . . . . .

Chemicals

Pentachlorophenol

40-p. booklet containing 51 questions and answers on the subject of pentachlorophenol, an industrial chemical used as a wood preservative, weed killer or destroyer of microorganisms. Facts given cover types of formulation, methods of application, and some general details on the chemical nature of "Penta." Monsanto Chemical Co., St. Louis, Mo.

Synthetic Adsorbent

8-p. booklet on "Florisil," a chromatographic adsorbent, described as a magnesia-silica gel catalyst and adsorbent. Booklet gives information on appearance and composition, density relationships, characteristics, adsorptivity, catalytic activity, and grades and packaging methods. A bibliographic outline lists studies using the compound in a general manner, as well as various studies using Florisil for specific classes of compounds. Floridin Co., Warren, Pa.

Aluminum Coating

4-p. folder explaining the process of "Alodizing," as an electroless protective-surface conversion process for bonding paint to aluminum and protecting the metal, describes methods of application, preparation details, and coating characteristics. American Chemical Paint Co., Ambler, Pa.

Perfume Aromatic

Technical data sheet on "Compound 77-B," a perfume aromatic, gives data on physical properties, fields of application, "life expectancy," and comparative details concerning the compound and similar aromatics. Tennessee Eastman Co., Kingsport, Tenn.

Equipment

Pre-Plasticizing

16-p. bulletin defining pre-plasticizing as the process whereby granulated molding material is plasticized before coming in contact with the injection plunger which positions the plasticized material into the mold, contains schematic drawings and photos showing the functions of the pre-plasticizing component parts. Advantages are noted. The Hydraulic Press Mfg. Co., Mt. Gilead, Ohio.

Conveyors and Elevators

28-p. booklet describing the firm's "Bulk Flo," a self-feeding, conveyor-elevator in one totally enclosed assembly, used for the mechanical handling of various bulk flowable materials. The bulletin contains photos of the conveyor in various applications, along with typical layout drawings, engineering data, calculation tables, charts and formulas. Link-Belt Co., 307 N. Michigan Ave., Chicago, Ill.

Interference Filters

13-p. bulletin discussing the operating principles, underlying theory, applications, various models and prices of G.A.B. interference filters, designed for isolating narrow spectral bands in colorimetry, fluorimetry, microscopy, photomicrography, etc. Photovolt Corp., 95 Madison Ave., New York, N.Y.

Controls

8-p. selection guide reviewing the main features, advantages and specific applications of various models of electric and electronic controls, devices and accesories—such as manual, magnetic combination and reverse motor starters, relays, limit switches, solenoids, electronic timer, float switch, etc. General Electric Co., Schenectady, N.Y.

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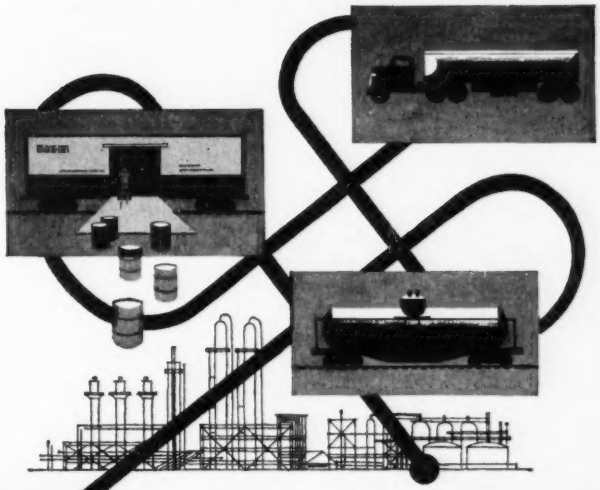

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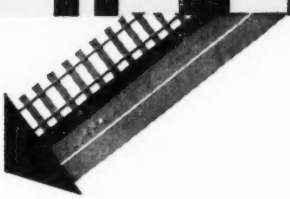

• Reichhold has become a major producer of the basic chemicals listed above primarily to supply its own world-wide manufacturing organization. The uniformity and quality of these chemicals are assured by the very latest production equipment and quality control systems. Because of the tremendous capacity of these RCI plants, Reichhold is frequently able to share its output with other industries. If you need phenol, glycerine, maleic anhydride, phthalic anhydride, sodium sulfate or sodium sulfite, call on Reichhold for current availabilities . . . write, wire or phone the Chemical Department.

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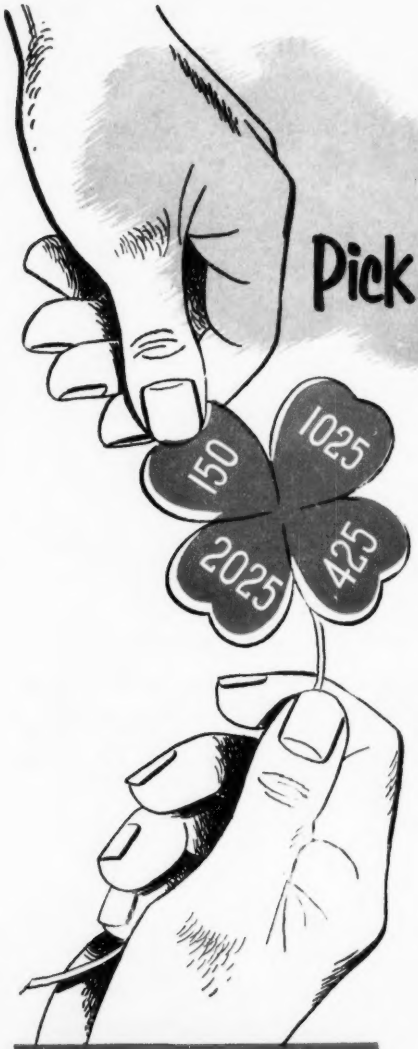

Pick a Polypropylene Glycol

For Lubricating Action.....

Use 1025 or 2025 as lubricant bases in medium and heavy-duty hydraulic fluids. They are non-volatile, non-sludging, have good low-temperature properties, good water-tolerance, are non-corrosive to metals, and have very little swelling effect on rubber. They tend to inhibit the swelling action of some of the more active solvents used in hydraulic fluid formulations.

Use polypropylene glycols as rubber lubricants. Good lubricating action plus low ash content give quick, easy release from the mold and a clean burn out.

For Solvent Power.....

A large number of solvent applications are possible with the polypropylene glycols because they are solvents for many organic materials and are compatible with many vegetable oils, natural waxes, and resins. They are currently being used as solvents for resin-type inks.

For Coupling Action.....

Polypropylene glycols 1025 and 2025 are only slightly soluble in water but the lower molecular weight compounds, 150 and 425, are water-soluble and have many uses in the preparation of soluble oils.

For Chemical Reactivity.....

The chemical reactivity of these products centers around the two hydroxyl groups. They are used to make non-ionic surface-active agents, resins, plasticizers, and non-volatile herbicidal preparations.

Availability

The polypropylene glycols are available in four closely controlled molecular weight ranges. The numbers 150, 425, 1025, and 2025, by which they are designated, represent their average molecular weights. All four products are available for immediate shipment in tank car quantities.

For samples and further information on how polypropylene glycols can best serve you, call or write our nearest office.

CARBIDE AND CARBON CHEMICALS COMPANY

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30 East 42nd Street New York 17, N. Y.

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